



City Research Online

City, University of London Institutional Repository

Citation: Bertin, C.K. (2003). Information systems implementation and IT-enabled organisational change in the Eastern Caribbean tourism sector : an examination of factors impacting on the successful adoption and use of the Internet and web-based systems in national tourist offices and the Caribbean Tourism Organisation. (Unpublished Doctoral thesis, City University London)

This is the accepted version of the paper.

This version of the publication may differ from the final published version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/7658/>

Link to published version:

Copyright: City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

Reuse: Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

City Research Online:

<http://openaccess.city.ac.uk/>

publications@city.ac.uk

Information Systems Implementation and IT-enabled Organisational Change in the Eastern Caribbean Tourism Sector:

**An Examination of Factors Impacting on the Successful
Adoption and Use of the Internet and Web-Based Systems in
National Tourist Offices and the Caribbean Tourism Organisation**

Cletus Kennedy Bertin

Submission for Degree of Doctor of Philosophy

**Cass Business School, London
(Formerly City University Business School)
Faculty of Management**

June 2003

Table of Contents

ABSTRACT	11
ACKNOWLEDGEMENTS	12
1. INTRODUCTION	13
1.1 Overview of Topic	13
1.1.1 Gap in the Literature and the Digital Divide.....	14
1.1.2 Selecting the Area and Topic of Focus	15
1.1.3 Economic Significance of the Tourism Industry	17
1.1.4 The Public Sector and Tourism.....	20
1.1.5 Information Technology and Tourism	21
1.1.6 Bridging the Gap	24
1.2 Objectives of Research.....	26
2. LITERATURE REVIEW	28
2.1 The Changing Global Order.....	28
2.1.1 Economic and Business Environment.....	28
2.1.2 Internet Technology	29
2.1.3 The World Wide Web	30
2.1.4 Electronic Commerce and Electronic Business	30
2.2 The Global Digital Economy and Developing Countries	32
2.3 The Digital Economy and the Public Sector.....	35

2.4. Theoretical Perspectives.....	39
2.4.1 Information Systems (IS) Implementation Literature	39
2.4.2 Innovation Adoption Literature.....	42
2.4.3 Process Innovation	46
2.4.4 Business Process Redesign/Reengineering (BPR).....	48
2.4.5 Process Innovation, BPR and the Public Sector	49
2.5 Electronic Business Frameworks and Models	51
2.6 Management of Tourism Literature	55
2.6.1 Destination Management Organisations	55
2.6.2 Destination Management Systems	65
3. RESEARCH DESIGN/METHODOLOGY.....	67
3.1 Research Questions	67
3.2 Propositions/Hypotheses	68
3.3 Philosophical Perspectives in Information Systems Research	69
3.3.1 Research Design.....	69
3.3.2 The Scientific Method.....	71
3.3.3 Research Traditions in Information Systems	73
3.3.4 Quantitative and Qualitative Approaches in Information Systems Research	75
3.3.5 Case Study Research.....	77
3.3.6 The Survey Method.....	79
3.3.7 Application of Research Methods and Strategies	80
3.4 Unit of Analysis	82

3.5 Sampling Framework and Data Collection.....	83
4. OVERVIEW OF CASE STUDIES	86
4.1. Introduction	86
4.2 Regional Context.....	87
4.2.1 Eastern Caribbean States.....	87
4.2.2 The Caribbean Tourism Industry	90
4.3 Caribbean Tourism Organisation	94
4.4 Destination: St. Lucia.....	98
4.5 Destination: Barbados	105
4.6 Destination: Grenada.....	109
5 CASE STUDY ANALYSIS: E-BUSINESS	116
5.1 Introduction	116
5.2 Internet Adoption	116
5.2.1 Levels of Complexity: NTO Web Sites	119
5.2.2 Internet Penetration: Tourism Industry	123
5.3 Information Systems Implementation.....	128
5.3.1 Strategic Planning Framework.....	128
5.3.2 Systems Development Approaches.....	139
5.4 Internet Maturity: From the Market Place to Virtual Spaces.....	143
5.4.1 Virtual Information Space.....	145
5.4.2 Virtual Communication Space	148

5.4.3 Virtual Transaction Space150

5.4.4 Virtual Distribution Space154

5.5 E-Business Trends: Outcomes and Impact155

5.5.1 Level of Organisational Change.....155

5.5.2 Visitor Survey Feedback.....162

5.5.3 Web Usage and Visitor Arrivals165

6. CASE STUDY ANALYSIS: CONCEPTION-REALITY GAPS173

6.1 Conception-Reality Gap Archetypes174

6.1.1 Rationality-Reality Gaps.....174

6.1.2 Private-Public Gaps.....177

6.1.3 Country Context Gaps.....178

6.2 Gap Dimensions181

6.2.1 Introduction.....181

6.2.2 Conceptions and Assumptions183

6.2.3 Conception Reality Gap Measures.....185

6.3 Conception Reality Gap Analysis: Dimensions.....188

6.3.1 Money Dimension.....190

6.3.2 Process Dimension194

6.3.3 Emphasis and Integration Dimensions.....196

6.3.4 People Dimension: Sense of Urgency and Motivation197

6.3.5 People Dimension: Communication and Objectives198

6.3.6 People Dimension: Staffing and Skills201

6.3.7 Management Dimension205

6.3.8 Technology Dimension208

6.3.9 Information Dimension211

6.3.10 Structures Dimension.....212

6.4 Conception Reality Gap Analysis: Sites214

6.4.1 Barbados Tourism Authority.....214

6.4.2 St. Lucia Tourist Board :.....216

6.4.3. Grenada Board of Tourism218

6.4.4 Caribbean Tourism Organisation220

7. DISCUSSIONS.....222

7.1 Research Questions and Related Hypotheses222

7.2 Contributions of the Study232

7.2.1 Implications for Public Sector Policy and Practice.....232

7.2.2 Theoretical Contribution236

8. CONCLUSIONS244

8.1 Reflections on the Research Process.....245

8.1.1 Selection of Topic245

8.1.2 Research Design, Data Collection and Analysis.....246

8.2 Study Limitations249

8.3 Recommendations for Future Research250

9. BIBLIOGRAPHY AND REFERENCES271

Appendices

Appendix 1: Regional Background

Appendix 2: Interview Protocol

Appendix 3: Interviews Conducted

Appendix 4: Questionnaire

Appendix 5: Visitor Survey (Extract)

Table of Figures

Figure 1.1: Contribution of Tourism Activity to Economies of the OECS...18

Figure 1.2: Tourism Sector Employment (St. Lucia, 1999).....19

Figure 1.3: Comparative Online Retail Sales.....22

Figure 1.4: E-Commerce Global Growth Sectors.....22

Figure 2.1: The MIT 1990’s Framework.....47

Figure 2.2: International Destination Management Organisation Structure.....56

Figure 2.3: Caribbean DMO Structure.....57

Figure 2.4: Traditional Value Chain.....63

Figure 2.5: Emerging Value Net.....64

Figure 2.6: A Model Destination Management System (DMS).....66

Figure 4.1: Dependence of the United States Market.....92

Figure 4.2: Organisational Structure- SLTB.....101

Figure 4.3: Comparative Growth Rate: Eastern Caribbean States.....111

Figure 4.4: Earnings by Sector: Grenada113

Figure 4.5: Organisational Structure - GBT115

Figure 5.1: Range of Complexity of Web Sites.....119

Figure 5.2: Level of Internet Penetration: Accommodation Sector: Barbados.....124

Figure 5.3: Level of Internet Penetration: Accommodation Sector: Grenada.....125

Figure 5.4: Level of Internet Penetration: Accommodation Sector: St. Lucia.....126

Figure 5.5: Level of Internet Penetration: By type of Accommodation.....127

Figure 5.6: Relationship between E-Business Strategy and Other Strategies.....129

Figure 5.7: NTO Strategic Planning Framework.....130

Figure 5.8: Role of Evaluation in the Strategy Formulation Process.....136

Figure 5.9: Role of Prototyping in the Systems Development Process.....142

Figure 5.10: ICDT Model: Analysis of Internet Maturity.....143

Figure 5.11: Exploitation of Virtual Spaces.....144

Figure 5.12: Extranet/Intranet Based Information Flow.....146

Figure 5.13: Extent of E-mail Usage.....149

Figure 5.14: Email Use by Categories.....150

Figure 5.15: Business Models: B2B and B2C.....154

Figure 5.16: Levels of IT-Enabled Transformation.....157

Figure 5.17: Importance of the Internet as a Source of Information.....163

Figure 5.18: Comparative Percentage Increase in the Importance of the Internet.....164

Figure 5.19: Travel Arrangements: By Region.....165

Figure 5.20: St. Lucia: US Arrivals and Visitor Web Sessions - 2002.....167

Figure 5.21: Grenada: US Arrivals and Visitor Web Sessions - 2001.....169

Figure 5.22: Grenada: US Arrivals and Visitor Web Sessions - 2002.....170

Figure 5.23: Caribbean Arrivals and GBT Visitor Web Sessions - 2001.....171

Figure 5.24: Caribbean Arrivals and GBT Visitor Web Sessions - 2002.....172

Figure 6.1: Continuum of IS Applications.....175

Figure 6.2: Reality Supporting and Rationality Imposing Information Systems.....176

Figure 6.3: Application of Reality Supporting and Rationality Imposing IS177

Figure 6.4: Dimensions of the Conception Reality Gap.....182

Figure 6.5: Benchmark Gap Measures: By Individual Dimension.....186

Figure 6.6: Graphical Display of Gap Measures: Aggregated by Site.....187

Figure 6.7: Graphical Display of Gap Dimensions.....189

Figure 6.8: Gap Measure: Money Dimension.....191

Figure 6.9: Gap Measure: Process Dimension.....194

Figure 6.10: Gap Measures: Emphasis and Integration196

Figure 6.11: Gap Measure: Sense of Urgency.....197

Figure 6.12: Gap Measures: Communication and Objectives199

Figure 6.13: Gap Measure: Skills 202

Figure 6.14: Gap Measure: Management 206

Figure 6.15: Gap Measure: Technology 209

Figure 6.16: Gap Measure: Barbados Tourism Association (BTA)..... 214

Figure 6.17: Gap Dimensions: Barbados Tourism Association (BTA).....215

Figure 6.18: Gap Measure: St. Lucia Tourist Board (SLTB)216

Figure 6.19: Gap Dimensions: St. Lucia Tourist Board (SLTB).....217

Figure 6.20: Gap Measure: Grenada Board of Tourism (GBT)218

Figure 6.21: Gap Dimensions: Grenada Board of Tourism (GBT).....219

Figure 6.22: Gap Measure: Caribbean Tourism Organisation (CTO).....220

Figure 6.23: Gap Dimensions: Caribbean Tourism Organisation (CTO).....221

Figure 7.1 : Levels of Change, Innovation and Organisational Lag.....238

Figure 7.2 : ICDT, Complexity and Reality versus Rationality.....240

Figure 7.3 : Information Fabric and Conception Reality Gaps.....242

List of Tables

Table 1.1: Comparison of Earnings from Major Exports and Tourism Receipts.....19

Table 2.1: The Changing Organisational Environment.....29

Table 2.2: IS Implementation Research Streams.....40

Table 2.3: Problems and Causes: IT Implementation Process in the Public Sector....42

Table 3.1: Dimensions of Research Designs.....70

Table 3.2: Conditions for Different Research Strategies.....71

Table 3.3: Units of Analysis.....83

Table 4.1: Profile of the Eastern Caribbean States.....88

Table 4.2: CTO Dues Formula..... 94

Table 4.3: Percentage Output Attributable to Visitor Arrivals.....99

Table 5.1: Chronological Development of DMO Sites.....117

Table 5.2: Description of Levels of Complexity.....120

Table 5.3: Generations and Levels of Complexity of Web Sites.....121

Table 5.4: Levels of Electronic Commerce and Strategy Formulation.....131

Table 5.5: Extended Levels of Strategy Formulation and Electronic Business132

Table 5.6: Application of Strategic Framework	133
Table 5.7: Other Elements of the Strategy Formulation and E-Business.....	134
Table 5.8: Application of Elements of Strategy Formulation and E-Business	135
Table 5.9: Levels of Transformation and Corresponding Characteristics.....	156
Table 5.10: Importance of the Internet as a Source of Information.....	162
Table 5.11: Advance Planning Times.....	168
Table 6.1: Conceptions & Assumptions for all Dimensions.....	184
Table 6.2: Conception-Reality Gap Measures.....	185
Table 6.3: Significant Gap Dimensions: Top Five	188
Table 6.4: Conception-Reality Gap: Money.....	192
Table 6.5: Gap Closing Measures: Money	193
Table 6.6: Conception Reality Gap: User Participation.....	200
Table 6.7: Conception-Reality Gap: People: Skills	203
Table 6.8: Management: Support	207
Table 6.9: Conception-Reality Gap: Technology	210
Table 6.10: Conception-Reality Gap: Organisational Structures.....	213
Table 7.1: NTO Budgets by Region and Area of Activity: 1980-1999.....	236

Abstract

This research project addresses the adoption of the Internet and implementation of web-based systems by quasi-governmental organisations responsible for the management of tourism in the small island developing states (SIDS) in the Eastern Caribbean. The key aspects of this work entail the examination of: the factors which impact upon the systems implementation process and IT-enabled organisational change, levels of Internet adoption and maturity, the extent to which the implementation of web-based systems and e-business activities are being conducted within a strategic framework and the impacts and outcomes of the e-business activities in the tourism sector in these islands.

Four in-depth case studies were conducted and data collected from a wide range of sources, across five of the islands, focusing primarily on the National Tourist Offices - and the regional tourism body, the Caribbean Tourism Organisation. Several models were used to address the key aspects of this study. It was found that while Internet penetration is relatively high, most web sites and web-based systems still have a limited focus on basic information provision and communication, as opposed to distribution and transaction oriented activities. The web-based systems in the National Tourist Offices are, for the most part, not being implemented within a broader strategic framework.

The central aspect of this work deals with the analysis of factors which impact upon the successful implementation of web-based systems. A conception-reality (CR) gap model was used in the assessment of the organisational context variables in the information systems implementation process. The most significant factors affecting the implementation of web-based systems, indicated by wide CR gaps, were: financing constraints, a low level of emphasis placed on these initiatives and the limited integration of IT with related business processes. A distinct 'organisational lag' was noted between technological innovation and administrative or process innovations. The critical impact of the wide gap in levels of management understanding is also addressed. The technology gap was moderate, and narrow gap levels were found for communication and user participation, which correlated with narrow gaps for clarity of objectives, staff acceptance and motivation.

The broader context of this work is the phenomenon often referred to as the 'Digital Divide'. Based on the findings of this work, it is argued that the wide chasms between countries of the North and those of the South cannot be defined only, or indeed primarily, in 'technological terms'. The utilization of the new information and communications technology (ICT), as a means of social and economic advancement in developing countries, clearly requires firstly, the successful adoption and implementation of the relevant technologies. The overriding focus, however, must be on bridging key dimensions of the 'conception-reality' gap, of which 'technology' is but one aspect. This would result in fundamental changes, at the individual, organisational and national levels, fostering greater levels of social and economic progress, as well as in the process, narrow the 'digital divide'.

Acknowledgements

The author wishes to express his appreciation to the following persons who assisted in the completion of this study. Firstly, sincere thanks to the individuals who participated in the fieldwork and gave generously of their time and invaluable knowledge and insights on the topic under investigation.

My deepest appreciation for the feedback and advice given by the Examiners: Professor David Sims (Internal), Dr. Ray Hackney (External) and Dr. Richard Heeks (External Examiner for my MPhil.-PhD Transfer Panel). Special thanks to Dr. Tennyson Joseph, Mr. Lenius Lendor and Ms. Doreen Fray, with respect to editorial, stylistic and conceptual aspects of the work. The support and encouragement from my wife, Roselima Bertin, were instrumental in the completion of this undertaking.

Above all, my Supervisor, Professor Clive Holtham, who consistently provided me with inspiration, invaluable advice and guidance, which were pivotal in directing and shaping the work. I am deeply grateful for his unwavering support and vision.

1. Introduction

1.1 Overview of Topic

This research project addresses the adoption of the Internet and implementation of web-based systems by quasi-governmental organisations. A key aspect of this work entails the examination of the factors which impact upon the systems implementation process in these public sector organisations, within the tourism sector¹ of Small Island Developing States (SIDS). The specific geographical area under investigation is the Eastern Caribbean, the islands formally grouped as the Organisation of Eastern Caribbean States (OECS), a subset of the overall grouping of the Caribbean nations - the Caribbean Community and Common Market (CARICOM).

The broader context of this work is the phenomenon often referred to as the Digital Divide (specifically between countries of the “North” and those of the “South”). There is a myriad of significant economic, political and social dimensions, which impact on this issue. While these will be addressed in part, the focus of this research is on the imperatives for public sector *organisations* in the tourism sector. Specifically, the analysis deals with the factors which would tend to militate against the successful implementation of web-based systems and the pattern of development with respect to electronic business initiatives.

This chapter provides the rationale and process undertaken in the selection of this area, in Section 1.1.1 and 1.2.1, respectively. A brief outline is provided on the role of the public sector in the tourism industry and the role of information technology in tourism. Both of these areas will be developed further in the literature review, Chapter 2, Section 2.7.

¹ Known as National Tourism Organisations (NTO's) or Destination Management Organisations (DMO's).

1.1.1 Gap in the Literature and the Digital Divide

Empirical research on web-based systems has been extremely limited thus far, in the context of developing countries (Ventura, 1997; UNCTAD, 2002). Much research has been done on the Caribbean region over the last thirty years, in the fields of economics, sociology, history and political science. No substantive work has been done to-date, however, in this emerging strand of information systems and information technology research – implementation of web-based systems and the adoption of the Internet.

Much of the literature on information and communications technology (ICT), of specific concern to developing countries, addresses general issues of Internet connectivity and access, and emanates from a wide range of international institutions². Additionally, the body of work stemming from these institutions, for the most part, tends to be highly prescriptive and seldom based on empirical work done from the developing country perspective.

The focus tends to be one of advocacy and promotion of ‘technology transfer’ as the way to bridge the digital divide and the adoption of ‘international best practice’ as the path to economic and social development by developing and less developed countries. (Press, 1996; Panos, 1998; Mahon, 1999).

The OECD (2001:4) defines the “digital divide” as:

The gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communications technologies (ICTs) and to their use of the Internet for a wide variety of activities.

²The United Nations Education and Scientific Council (UNESCO), the International Federation for Information Processing (IFIP) Working Group 6.2, Commonwealth Network of IT for Development (COMNET-IT); the World Bank; the United Nations Conference on Trade and Development (UNCTAD) and the Organisation for Economic Co-operation and Development (OECD).

It has been argued that what is really at stake is that today's technology "have-nots may find themselves marginalized for life because they lack the skills and tools to participate in the globalized, knowledge-based economy" (Colin Powell, 2000).

Mindful of the gap in the literature and the need to investigate the fundamental issues which may result in the continuation, and exacerbation, of the 'digital divide' (even when the technology has been 'transferred'), the primary reason for this study is reflected in following statement:

There is, therefore, an urgent need to create road maps for potential electronic commerce opportunities, to document the experiences of successful initiatives, the enabling process and technological innovations used, to analyze the markets in which they operate, the relevant business models and critical success factors (Powell, 2000:1).

A more in depth discussion of the changing global economy and developing countries is provided in Section 2.2, as part of the review of relevant literature.

1.1.2 Selecting the Area and Topic of Focus

It has been suggested that the quest to establish the information systems (IS) field as a recognised academic discipline has led to an emphasis on 'methodological rigor' at the expense of relevance. Consequently, there have been calls for more 'relevance' in information systems research (Applegate, 1999; Benbasat and Zmud, 1999). It is instructive that Applegate (1999), commenting on this issue, states that *IS topics* being addressed, are "very influential in determining relevance".

The desire to ensure that this study was not only methodologically rigorous, but also of some relevance and utility, in light of globalisation and trade liberalisation, in part led to the selection of the region under investigation - the relatively vulnerable small island states of the Eastern Caribbean. Efforts were also made to examine a sector that was of consequence and strategic importance, significantly impacting upon the economic

development of the islands. The Caribbean region has enjoyed relative stability and economic growth over the last few decades. Current and future global economic trends, however, necessitate a fundamental re-examination of the role of ICT in the economic development paradigms, not only with respect to emerging sectors, such as off-shore financial services and information technology parks, but also in relation to the traditional economic pillars, like the tourism industry.

The selection of the sector for the examination of innovative uses of web-based technologies was done after a careful review of the literature on information systems and electronic commerce, focusing on the areas of greatest potential for small island developing states (SIDS). Additionally, preliminary fieldwork was undertaken during the period July to September, 2000, in order to determine the specific topic for empirical investigation - arising out of the broad area of the ICT and the Public Sector in the Eastern Caribbean.

Interviews were conducted with officials in the Education sector, with regard to the development of a multi-country Education Management Information System for the Eastern Caribbean. The pilot was in operation in St. Lucia and was scheduled for roll-out to the other islands, after a post-implementation review, in the latter part of 2001. Other public sector on-line initiatives, in the Customs Department, the Inland Revenue Department and the Judiciary, were also reviewed.

The off-shore financial services sector was closely examined, and interviews were conducted with the implementation team of what is boldly claimed to be the “World’s first *On-line Public* International Business Company (IBC) Registry” – Pinnacle St. Lucia. This system is deployed over the Internet and enables the electronic processing of applications for the incorporation of off-shore institutions in St. Lucia. A similar system operating in Anguilla was also reviewed. The following section, 1.1.3 outlines the interaction between the Public Sector and the Tourism industry, and some of the specific reasons for the selection of this research area.

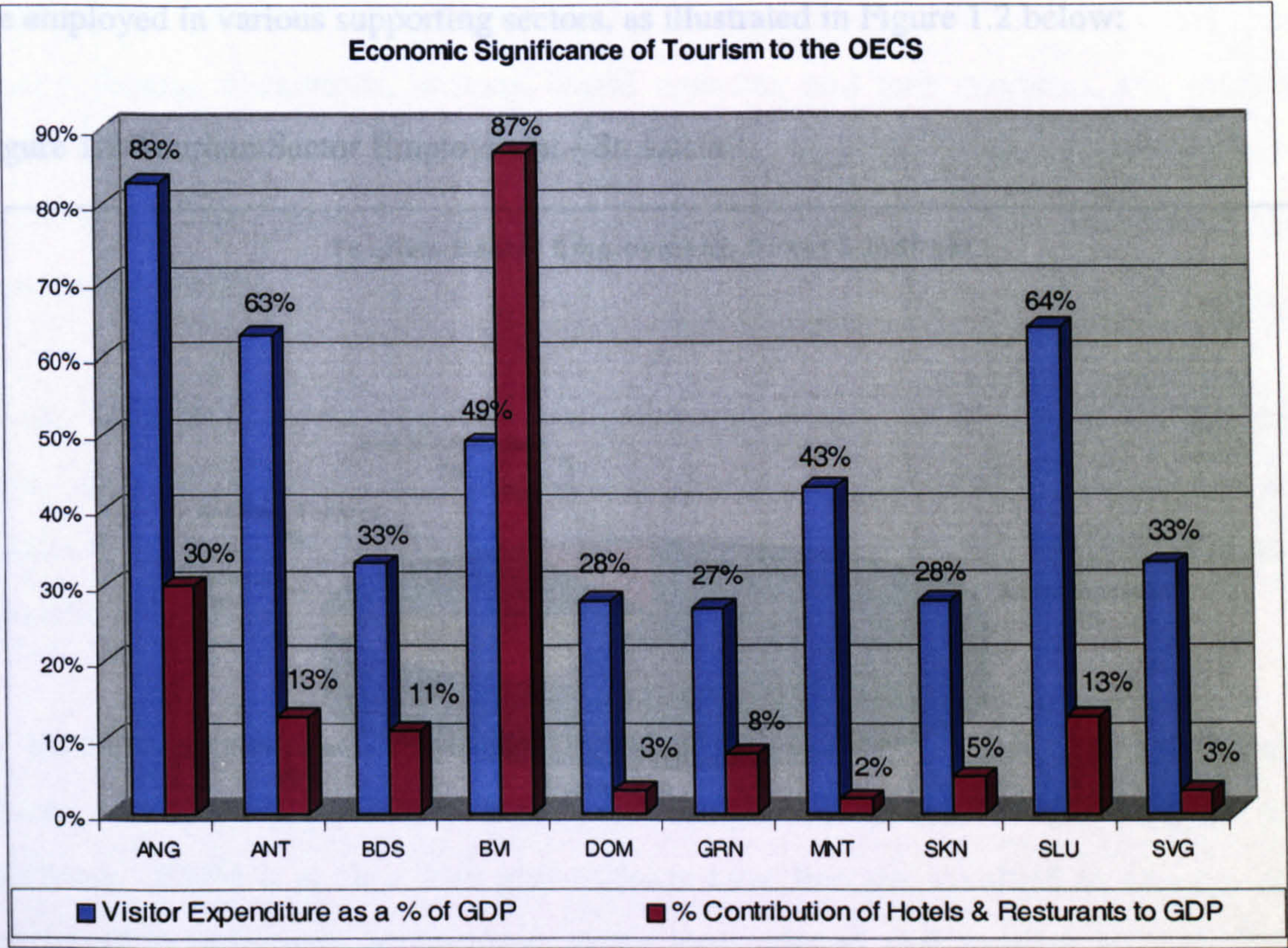
1.1.3 Economic Significance of the Tourism Industry

Several indicators can be used to assess the economic contribution of tourism to the Caribbean region: employment creation (direct, indirect and induced), the level of visitor expenditure, the direct contribution of the hospitality sector to Gross Domestic Product (GDP), and foreign exchange earnings. The precision with which these, and other indicators, can be measured and quantified, vary considerably.

With regard to employment creation, the direct effect is enjoyed by those who deal directly with the needs and demands of the tourism sector. The indirect effect is felt by those who supply the tourism establishments or the suppliers of tourism establishments. On the other hand, the induced effect involves the generation of further, 'spill-off' rounds of economic activity created by the expenditure and savings within the national economy, by earners of direct and indirect income (WTO, 1999b).

The significance of the tourism sector to the eastern Caribbean region, in terms of the contribution of the hospitality sector to GDP and the level of visitor expenditure as a percentage of GDP, is presented in Figure 1.1 below. The level of visitor expenditure to GDP provides a reasonably strong indicator of the relative economic impact of tourism. This ranges from a staggeringly high level of over eighty percent (80%) for Antigua and Barbuda, to a much lower, but still significant levels of twenty-eight percent (28%) for both Dominica and St. Kitts and Nevis, and twenty-seven percent (27%) for Grenada. The average contribution of visitor expenditure to GDP for the OECS is forty-five percent (45%).

Figure 1.1 Contribution of Primary Tourism Activity to Economies of the OECS



Source: Caribbean Tourism Organisation, 2002

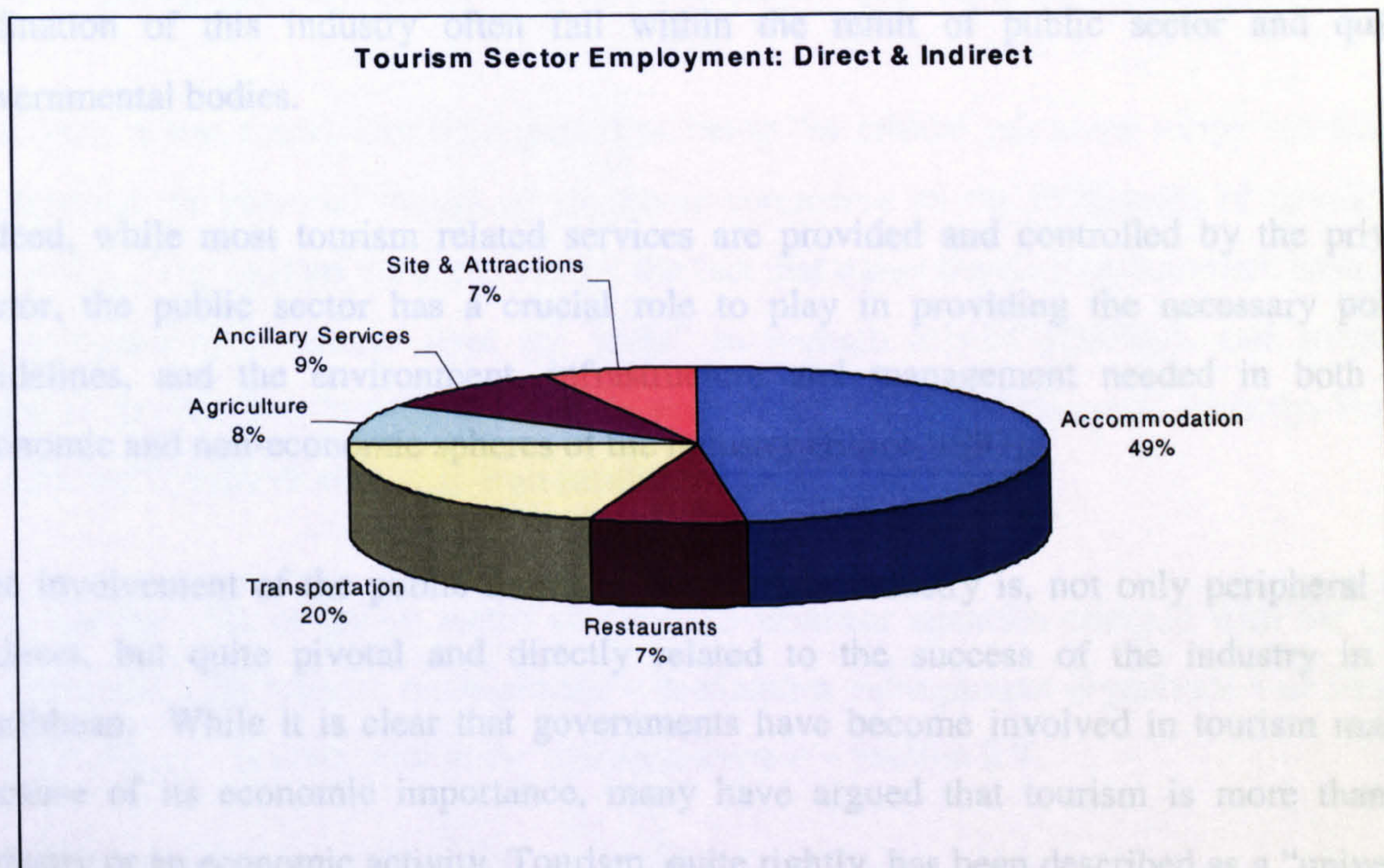
The total number of persons directly and indirectly dependant on tourism is considerably larger than those employed in accommodation establishments. These include taxi drivers, water sports operators, workers in bars, restaurants, casinos, souvenir and other retail shops and many others employed in areas directly or indirectly dependent on tourism.

The overall estimate for the Caribbean region is that tourism industry provided approximately three (3) million jobs, generated US\$37.4 billion in economic activity in 2001, and was responsible for thirty one percent (31%) of the regions' gross domestic product (GDP), making the Caribbean the most tourism dependent region in the world (World Travel and Tourism Council, 2002). The findings of a recent 'Tourism Employment Survey' conducted in St. Lucia, for example, indicated that the accommodation and restaurant sectors, while contributing substantially to employment creation, due to the fact that they are labour intensive operations, still only account for a little over fifty-six percent

1.1.4 The Public Sector and Tourism

(56%) of the persons employed in the tourism sector. A significant percentage of persons are employed in various supporting sectors, as illustrated in Figure 1.2 below:

Figure 1.2 Tourism Sector Employment - St. Lucia



Source: St. Lucia Tourist Board, 1999

For countries such as Antigua and Barbuda and the Bahamas, the tourism sector's overall contribution is as much as seventy-four percent (74%) and eighty-nine percent (89%) of the Gross Domestic Product (GDP), respectively (CTO, 1999). An analysis of the contribution of the tourism sector, relative to the major exports of some of the Eastern Caribbean states, presented in Table 1.1 below, clearly reveals the economic significance of the tourism industry:

Table 1.1 Comparison of Earnings from Major Exports and Tourism Receipts

Country	Major Exports (US\$ M)	Tourism Expenditure (US\$ M)
Dominica	14.22	48.8
Grenada	00.12	93.15
St. Lucia	32.33	272.6
St. Vincent	18.94	78.86

Source: OECS Human Development Report, 2002

1.1.4 The Public Sector and Tourism

Private sector initiatives feature prominently in the landscape of the travel and tourism industry (hotels, restaurants, airlines, travel agencies and tour operators are, invariably, private sector concerns). The overall management, strategic planning and tactical co-ordination of this industry often fall within the remit of public sector and quasi-governmental bodies.

Indeed, while most tourism related services are provided and controlled by the private sector, the public sector has a crucial role to play in providing the necessary policy guidelines, and the environment, infrastructure and management needed in both the economic and non-economic spheres of the industry (Elliot, 1997).

The involvement of the public sector in the tourism industry is, not only peripheral and indirect, but quite pivotal and directly related to the success of the industry in the Caribbean. While it is clear that governments have become involved in tourism mainly because of its economic importance, many have argued that tourism is more than an industry or an economic activity. Tourism, quite rightly, has been described as a “universal dynamic social phenomena” that can have profound social effects, especially in developing countries (Elliot, 1997; Pattulo, 1996).

Sharma et al. (2000), commenting on the development of the tourism industry in Australia, assert that government involvement, at the federal and state levels, is essential in supporting and developing the industry. This role includes “developing legislative and policy frameworks, destination marketing and ensuring that tourism development supports broad economic, environmental and socio-cultural imperatives”. Consequently, most governments are increasingly taking a significant interest in the existing and potential impact of online technologies on the development, marketing and distribution of the...tourism product (Sharma, Carson and Delacy, 2000). It is also noteworthy that the regulatory environment and public sector initiatives are among key factors that influence the uptake of online technologies (Werther and Klein, 1999).

Given the critical importance of this industry to the Caribbean region (outlined in the previous Section 1.1.3), the case for the direct involvement of governmental agencies at various levels is quite strong. Elliot (1997) found that in both developed countries and developing countries the tourism industry must cooperate with government and further, that “public management is required at all levels to assist in providing the tourism product”.

Tourism, it was found, can be regarded as being “of critical relevance when one tries to understand the potential impact of electronic commerce on the economies of developing countries”. The reasons cited are, firstly, the fact that many developing countries have built a “comparative advantage over the years” in tourism related activities, and secondly, because tourism has “remained a largely service activity, in which, until recently, buyers, sellers and intermediaries were well identified” (UNCTAD, 2000).

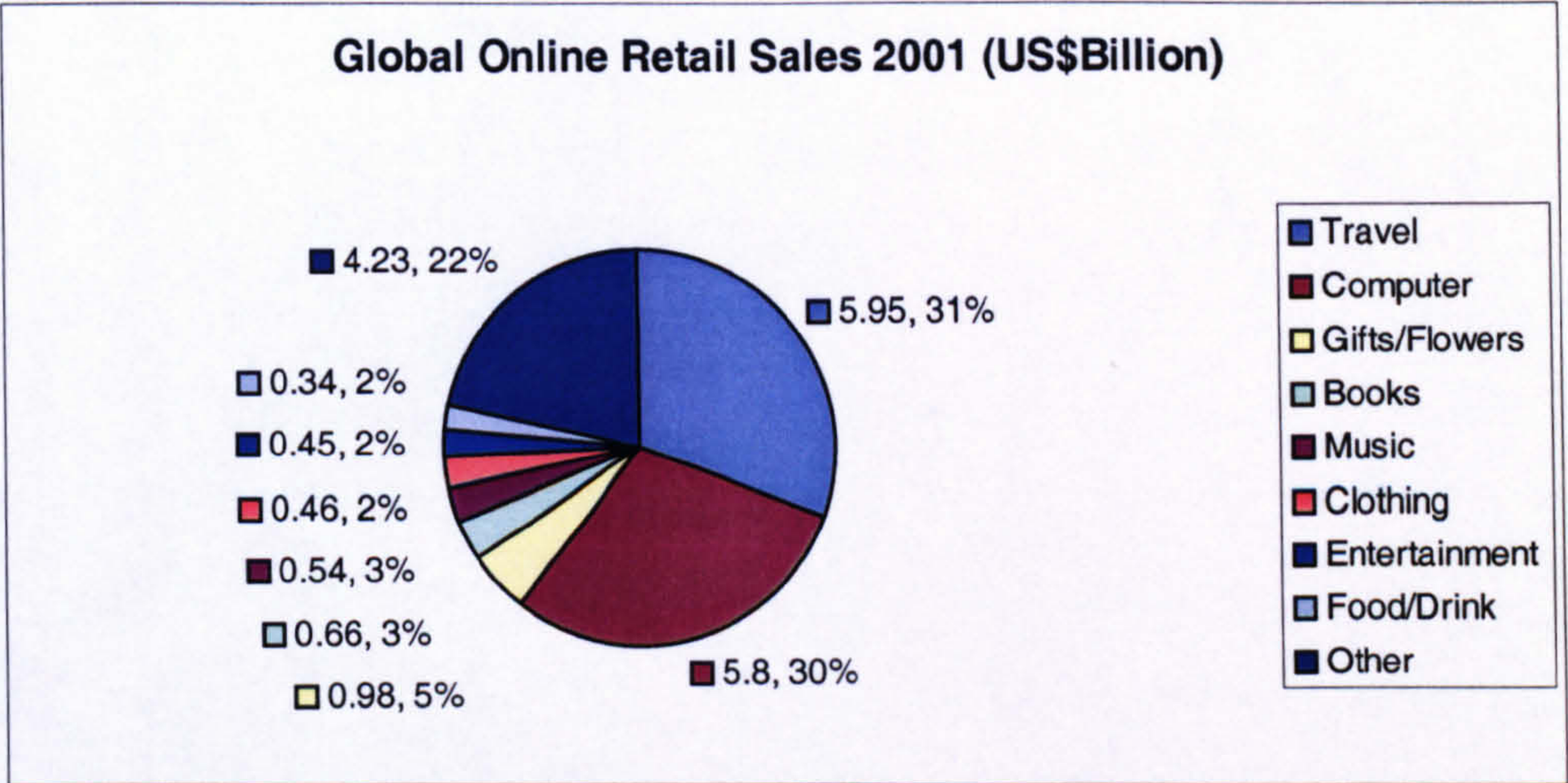
The specific role of public sector or quasi-government agencies charged with the direct responsibility for tourism management – destination management organisation or national tourist offices – is dealt with in the literature review – Section 2.7.

1.1.5 Information Technology and Tourism

Online sales of airline tickets, car rentals and hotel reservations were the single largest electronic commerce sector globally in 2000 (Forrester Research, 2001). Travel has been said to represent the “low hanging fruit” in terms of business to consumer (B2C) electronic commerce (Flood, 2001). From the very early stages in the development of the web for commercial purposes, online revenues from travel sales were estimated to have increased by four hundred and forty percent (440%) between 1996 and 2000, with travel being one of the most frequent services purchased on the Internet (Tierney, 2000).

The travel and tourism industry, it is argued, exhibits the product attributes favouring electronic markets (Malone, Yates and Benjamin, 1987), namely “low asset specificity and simple product description.” Figure 1.3 below illustrates the leading position of travel with respect to the top online retail sectors:

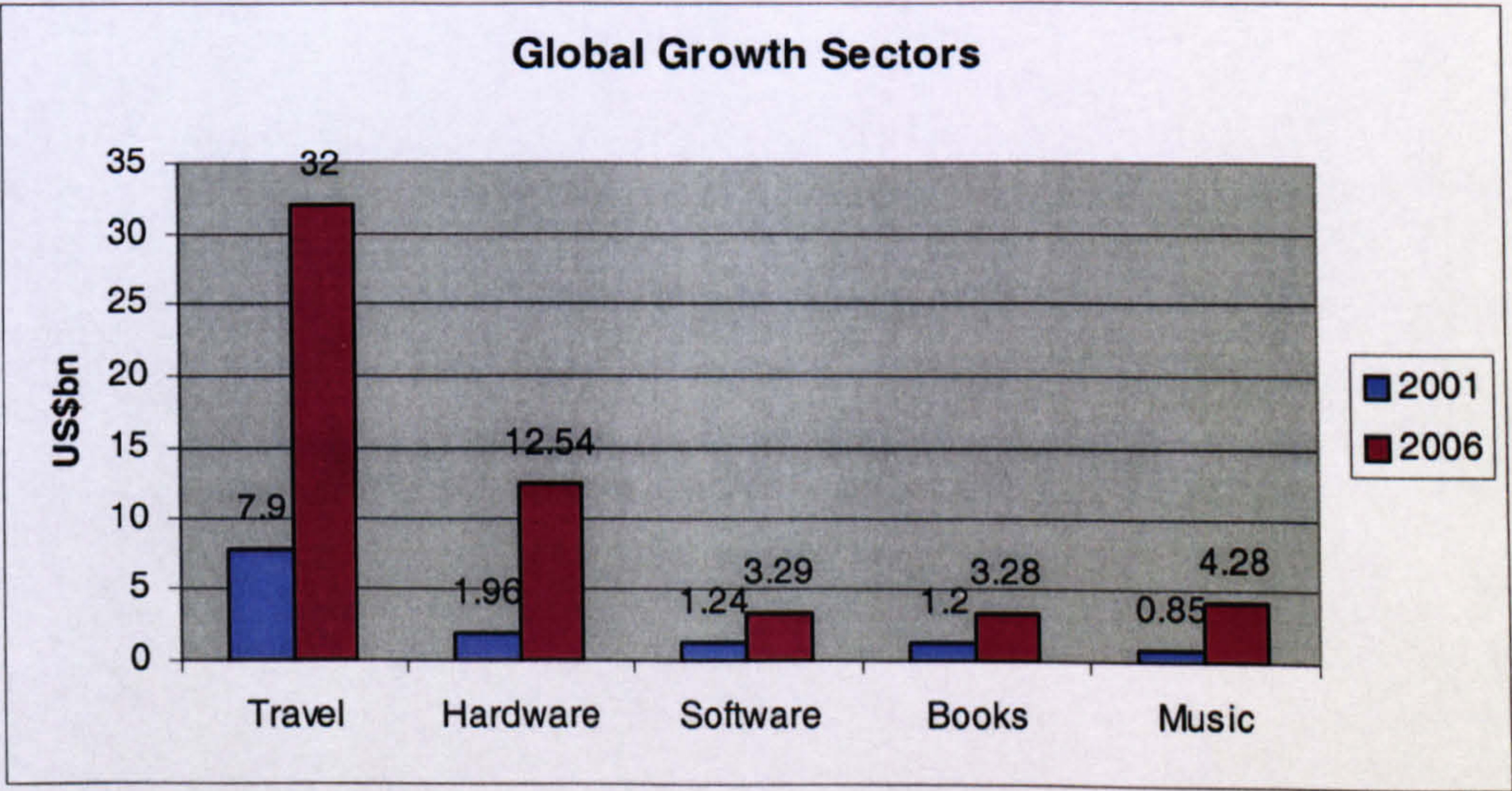
Figure 1.3 Comparative Online Retail Sales



Source: Jupiter Communications, 2002

The forecast for the above sectors is also quite revealing. Table 1.4 below, indicates the growth projections, over the period 2001 to 2006, for some of the leading online business sectors above.

Figure1.4 E-Commerce Global Growth Sectors



Source: Forrester Research, 2002

Indeed, a very distinct relationship has been noted between tourism and the new information and communications technologies (World Tourism Organisation, 1999; Scott and Laws, 2001; O’Conner, Buhalis and Frew, 2001). Frew (2000:2) declares that the rapid growth of tourism over the last two decades is:

Mirrored by one other growth curve, that of the information and communications technologies, and the accelerating and synergistic interaction between each of these, in recent times, has wrought fundamental change on the [tourism] industry.

It is not surprising therefore that a major research field is emerging from this interface, as “...researchers seek to understand and communicate the significance of the new technologies, seek to record and interpret contemporary activity, and attempt to forecast the way ahead” (Frew, 2000).

New information and communication technologies are ‘enhancing recent inter-enterprise collaboration schemes’ and their appropriate integration, ‘offer new win/win situations for every actor of the tourism industry’ (Scott and Laws, 2001). The international travel and tourism industry is increasingly moving online, and developing countries that either currently attract or aspire to attract a sizeable tourism business need to recognize this (Goldstein and O’Conner, 2000).

The shape of the tourism value chain has also changed in a fundamental way, over the last five years, largely due to the impact of the new information and communications technologies (ICTs), on the industry. It has been noted that the commercial sector value chain, and in particular, airlines and hotels groups has made significant use of ICT, as opposed to the DMO value chain, which has made only limited use of the new technology (World Tourism Organisation, 2001). Further, a key distinguishing factor between the commercial enterprises and DMO’s is that commercial chains have been strong on transactions and weak on destination information, whilst the latter (DMO chains) has exhibited the reverse pattern (WTO, 2001; UNCTAD, 2002). The role of the DMO in the tourism value chain will be discussed further in Section 2.6, as part of the review of the Management of Tourism literature.

1.1.6 Bridging the Gap

This work therefore encompasses many distinct elements and perspectives: developing countries, public sector, information technology (in particular the Internet and web-based systems) and tourism. Chapter 2 presents further insights on the main issues arising out of the literature review with regard to these areas and attempts to focus on, and link the key aspects of interaction between them.

It is striking that the possibilities of new ICTs, in bridging global socio-economic gaps, mirrors the potential of the tourism industry, to the developing world. The late Prime Minister of Jamaica, Hon. Michael Manley, suggested that the development of the tourism industry needed be grounded in a 'clear consciousness and deliberate strategy' for proactively addressing the socio-economic concerns of the Caribbean people. Otherwise, he argues "...it will become our master, dispensing pleasure on a curve of diminishing returns while it exacerbates social divisions and widens that legacy of colonialism: the gap between small, comfortable minorities and large majorities barely surviving at the social margin" (Manley in Pattulo, 1996).

The parallel with regard to the issue of the implementation and use of web-based technologies is clearly noted in the following statement:

Carefully handled at a national and international level, the Internet and electronic commerce could become means to help overcome global gaps in development, technology and knowledge, rather than deepening these and exacerbating existing economic and social inequalities, thereby increasing exploitation, marginalization and tensions within and between countries. (Singh, 1999:14).

An underlying premise of this work is that the 'digital divide' (itself a mere manifestation of far more fundamental disparities in global wealth distribution, arising out of a myriad of historical and geo-political factors) can only be narrowed by a deliberate and systematic effort to bridge gaps that go beyond the 'digital' dimension or the technological domain. Consequently, bridging the real 'divide' has little to do with the access and use of technology, in itself, but with the strategic use of the new ICTs as a means to an end. It is

argued that such efforts must, inter alia, be driven by a clear and coherent *public sector* ICT strategic and action plan, as suggested by the following finding with respect to information and communications technology initiatives in developing countries:

The credibility of any ICT policy [in developing countries] is to a large extent dependant on the government sector's own efforts towards the effective deployment and use of these technologies. As a major employer, service provider and consumer, Governments are also in the best position to initiate and sustain the spread of ICT applications in the other sectors and the subsequent growth of ICT industries (GOPA, 2002:3).

The specific objectives of this study are presented in the following Section: 1.2.

1.2 Objectives of Research

The primary objective of this research is the investigation of the adoption of the Internet and the implementation of web-based systems in public sector organisations in the tourism industry in the Eastern Caribbean. It has been suggested that “with rare exceptions”, such organisations are “among the less developed players in the online tourism industry” (United Nations Conference on Trade and Development - UNCTAD, 2000).

Structural changes in the tourism industry, resulting from the phenomenal increase in the use of the Internet and e-commerce globally, are encouraging the appearance of “a new type of destination management organisation [DMO]³” (UNCTAD, 2000; Tourism Intelligence International, 2000; Buhalis and Licata, 2002; World Tourism Organisation, 1999).

The identification of the significant local and sectoral characteristics, in the context of the Eastern Caribbean, that impact on the level of success with respect to the implementation of new ICTs is one of the primary aims of this work. The examination of implementation strategies, and the corresponding process transformations, for the successful transition of the traditional developing country DMO to the “new type” is also a secondary objective of this study.

Numerous studies have been done in an attempt to understand the status of e-commerce and e-government activities and changing business models (Cappel and Myerscough, 1996; Quelch and Klein, 1996; Ho, 1997; Angehrn, 1997; Timmers, 1998; Burgess and Copper, 1999; Afuah and Tucci, 2000; Burgess and Copper, 2000; UNCTAD, 2002; Heeks, 2003).

An analysis of the level of ‘maturity’ or advancement of Internet adoption and the electronic business trends, in the tourism sector, is a further objective of this study. An evaluation of the impact and level of success of web sites, in terms of organisational

³ Destination Management Organisation (DMO) – Entity responsible for the overall management of the tourism activities for a particular destination (local, national, or regional).

process improvements and visitor arrivals will also be undertaken. At a broader level, the correlation between the local and sectoral characteristics - the extent of conception-reality gaps, introduced in Section 2.3 and discussed further in Chapter 6 - in the various case study sites and the comparative levels of success of their respective web-based initiatives is examined.

In addressing the aims and objectives of this study, a wide range of frameworks and models are utilized, either subjected to empirical testing and validation, or used as a means of operationalising key constructs for measurement, testing, facilitating the probing and illumination of the primary issues in this work. The following statement is quite apt, in terms of the approach adopted here:

Electronic commerce is forecast to have a broad scope of impact on organisations that embrace it, affecting relations with customers and suppliers and even causing restructuring in whole industries. This broad impact suggests that is unlikely that one single model or framework will be sufficient to explain what an organisation could or should do in this field (Daniel et al., 1999:28).

The literature review in the following Chapter reflects the author's concurrence with the above view, as a wide range of conceptual models and frameworks, from diverse strands of literature, are brought to bear on the topic under consideration.

2. Literature Review

2.1 The Changing Global Order

2.1.1 Economic and Business Environment

Profound changes have occurred in the business and economic environment globally, over the last decade (Tapscott, Lowy and Ticoll, 1998; Tapscott, 1995; Kalakota and Robinson, 1999; Shapiro and Varian, 1998). The recognition of a fundamental shift in the business and economic environment can be traced back a few decades, however, to the work of Machlup (1962) and Bell (1974) in (Heeks, 1999). Current writings on the emergence of a “Digital Economy”, the “Information Age” and the “Knowledge Economy”, though generally associated with the impact of the new information and communications technologies, have their genesis in the rise in importance of ‘information’ and ‘knowledge’ as the drivers of the transformation of the western industrialised societies to a more services based economies (Masuda, 1983).

A succinct, yet insightful analysis of the pivotal global changes that have significantly altered the environment in which organisations operate today led to the articulation of three key driving forces. The emergence and strengthening of the *global* economy; the transformation of industrial economies into knowledge and information-based service economies; and lastly, the transformation of the business enterprise (Laudon and Laudon, 2000).

The following table, 2.1, provides an outline of the key issues arising out of the above categories. This analysis is most relevant to this research undertaking, in light of the transformation of the global travel and tourism industry and the implications for the organisations which seek to manage tourism at the national/destination⁴ level.

⁴ National Tourist Office (NTO) or Destination Management Organisation (DMO), discussed in further detail in Section 2.7.

Table 2.1 The Changing Organisational Environment

Changes:	Key Issues:
Globalisation	<ul style="list-style-type: none"> ❖ Management & Control in a global marketplace ❖ Competition in world markets ❖ Global work groups ❖ Global delivery systems
Transformation of Industrial Economies	<ul style="list-style-type: none"> ❖ Knowledge & Information based economies ❖ Productivity ❖ New products and services ❖ Time-based competition ❖ Shorter product life
Transformation of the Organisation	<ul style="list-style-type: none"> ❖ Flattening ❖ Decentralization ❖ Flexibility ❖ Location independence ❖ Low transaction and coordination cost ❖ Collaborative work and teamwork

Adapted from Laudon and Laudon (2000)

It is clear that the primary technologies driving or supporting this rapidly changing environment are the Internet and the World Wide Web (Web). A brief overview of these technologies is provided in the following sections.

2.1.2 Internet Technology

The Internet is a global configuration consisting of thousands of interconnected packet-switched computer networks based on TCP/IP, a set of open communications protocols. It was originally conceived by the United States Department of Defence in the 1960's, and implemented through the Advanced Research Project Agency (ARPANET). Initially, the project involved the linking together of mainframe computers at four Universities in the United States. The original objective was to create a network that would enable the safe and reliable transmittal of data between military computers at different sites through redundant communication routes (Kalakota and Whinston, 1997).

In 1991, the United States National Science Foundation (NSF) relaxed restrictions and allowed limited commercial access to the Internet. In April, 1995, the United States government further relinquished control of the Internet to independent governing bodies

and companies were then able to have totally unrestricted access. Until that time, however, the capabilities of the Internet were limited to text-based interaction, and consequently, not ideal for the full commercial exploitation of this medium.

2.1.3 The World Wide Web

The development of the World Wide Web (Web or www) in the early to mid 1990's was the primary factor which led to the dramatic increase in the commercial use of the Internet, over the last eight years (Laudon and Laudon, 2002; Chaffey, 2002). The Web is, essentially, the Internet capability with universally accepted standards for handling information in a networked environment. It enables the storage and display of information as electronic "pages", containing text, graphics, animations, sound and video. These web pages or web sites can be electronically linked to other Web pages, regardless of where they are located and viewed by any *type* of computer (Oxford Dictionary of Computing, 1996).

2.1.4 Electronic Commerce and Electronic Business

Westland and Clarke (1999) define electronic commerce as the "automation of commercial transactions using computer and communications technologies." "Commercial" considered as activities that seek to create arm's length transactions between firms and individuals and involve the exchange of money, goods, or obligations.

While maintaining that electronic commerce has been around, in concept and implementation, for over two decades, they too concur that the exponential rise in business conducted on electronic platforms is clearly attributable to the introduction of World Wide Web browser technology.

The following is a useful definition proffered by Zwass (1998), clearly illustrating the view that electronic commerce is but a subset of electronic business:

Electronic business is ...the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks... including the sell-buy relationships and transactions between companies and individuals [i.e. electronic commerce], as well as corporate processes that support the commerce within individual firms (Zwass: 9).

Similarly, the broad spectrum of e-business, as compared to e-commerce, is highlighted in the following definition: “e-business means basing a business around digital technology and the Internet as the main communications (and operations) medium” (Gartner Group, 2000).

It should be noted that the extent to which an organisation bases its existence on the Internet as the medium of communications and operations, is a significant consideration in assessing the relevance of the electronic commerce and electronic business phenomenon to developing countries and public sector organisations. The implementation issues and business models with respect to the businesses which are totally Internet based - the ‘pure-play Internet firms’ or ‘dot-coms’ of the mid to late 1990’s - are not very relevant for purposes of this study. The dynamics surrounding the incorporation of the new information and communications technologies into existing organisation are far more germane to this work, and as stated earlier, focusing on the perspective of public sector organisations in small island developing states.

2.2 The Global Digital Economy and Developing Countries

The significant imbalance in the global distribution of electronic commerce activities is aptly summarised by the following statement:

Visions of a global knowledge-based economy and universal electronic commerce, characterised by the 'death of distance' must be tempered by the reality that half the world's population has never made a telephone call, much less accessed the Internet." (Organisation for Economic Corporation and Development - OECD, 1999:1)

On the issue of global diffusion of Internet connectivity, - introduced earlier in Section 1.1.1 - it is clear that there is a strong contrast in Internet availability between industrialised and developing countries, and also uneven access *within* developing and developed countries (Wehn, 1998).

The term "developing countries" refers to an extremely large category of diverse nations, at varying degrees of economic, political, social and infrastructural advancement (United Nations, 2000; Oppermann and Chon 1997). Identical strategies for Internet diffusion and usage cannot, therefore necessarily be applied uniformly. Groups of countries with comparable socio-economic, cultural and geographic conditions may require similar strategies (Mahon, 1999).

One of the critical underlying issues has been the debate on whether ICTs will allow leaps in socio-economic development, thereby closing the development and technological gap between countries, or whether these technologies will widen the gap, leading to more unemployment and competitive setbacks in trade (Ventura, 1997; Garcia, 2000).

Many efforts have been made by industrialised nations and international donor agencies over the last thirty years to transfer technology to the 'Third World' and leverage information systems for development, as a means of generating socio-economic advancement in less developed and developing countries (Montealegre, 1999; Watson, 1997; United Nations, 1996; Press, 1996; Bhatnagar, 1990; 1992; Hudson, 1984).

The transfer of technology has also been emphasized as an important means of making development aid and foreign direct investment into developing countries more effective and many researchers have suggested that information technology might be the answer to the problem of how to bridge the welfare gap between the industrialised and the third world (Butler, 1987; Correa, 1992; Hudson, 1984, Parker, 1984).

It has been argued, though, that the limited success achieved has been due to the fact that there has been a persistent failure to understand that technology is not “value-free”. Consequently, it is impossible to transfer technology from one material, social and cultural context to another without considering the “fitness” between the technology and the receiving context (Henfridsson, 1995; Heeks and Bhatnagar, 1999).

Further, the achievement of more sustainable, equitable forms of human development does not depend on the existence of technology and Internet connections alone, but on the acquisition and exploitation of information and knowledge (Mansell, 1998; Rogerson and Itoh, 1998).

A related issue is the question of the extent to which developing countries should focus primarily on the acquisition, dissemination and use of globally available knowledge, and indeed technology, or promote the generation of indigenous knowledge and technological innovations (Madon, 1999). It has been suggested that indigenous knowledge systems need to become the fundamental building block for the future transformation of societies, not only in developing countries but also in advanced countries as well (World Bank, 1999; Mundy and Compton, 1995; Mansell, 1998).

Improving Internet access in developing countries has been recognised in the literature, and by governments and international agencies, with increasing consensus, that the Web and related technology should be regarded as strategic national infrastructure (Kenney, 1995; Mansell and When, 1998). Findings from several studies suggest that wider connectivity within developing countries would improve the overall information infrastructure and

thereby promote positive changes in socio-economic development (Adam, 1996; Press, 1996; Panos, 1998).

However, the United Nations Conference of Science and Technology for Development (UNCSTD, 2000) concluded that the evidence of the benefits and risks of investment in the production and use of ICTs is “inconsistent”. What appears clear is that the outcomes will depend on:

The capacity to design and implement policies, draft suitable regulations, facilitate education and training, and enable technological assessment programmes that will build most effectively on each country's technological capabilities and/or their socio-economic conditions. *The factors which will govern any one of these imperatives are not yet properly understood.* (United Nations, 2000:24).

In the same vein an assessment of the social and economic implications of the new information and communication technologies suggests that there are tremendous benefits and potential risks, in joining the global information society (Ventura, 1997). From a developing country perspective, joining the information revolution is extremely difficult, often costly and presents ‘difficult choices’, characterised by great uncertainty. The overall conclusion, however, is that concerns of developing countries regarding their participation, should “bear less on *whether* this should be accorded high priority, than on *how* to effectively apply information technologies to development, so as to reduce, rather than widen and deepen, the gap between information “haves” and “have-nots” (UNESCO, 1996).

Some areas of uncertainty that have been highlighted in the information systems and development literature, with regard to the participation of developing countries in the global information economy, revolve around a wide range of issues: the specific technologies to be employed; the precise details of their world market movements and behaviour of the major players; the required investments in skills and training at the outset, and the ongoing adjustments which will invariably be required; the priority steps that are needed to meet pressing social and economic goals, and the adoption of appropriate business models and corresponding organisational structures.

As in the case of previous development thrusts towards an industrial, and then towards a service society, the ICT revolution is being overwhelmingly driven by countries of the North and, more specifically, by multinational corporations, which are 'defining and negotiating the various parameters, priorities, rules and processes of the future information society' (Singh 1999; UNESCO, 1996).

Thus despite the clear potential of computer technology and Internet connectivity for commercial activity and economic development, there is evidence to suggest that the return on investment in information technology in developing country organisations could be substantially unrealised. With the investment in information technology, there is need to ensure that organisations have the capacity to, first of all successfully adopt, implement and utilize the technology and, also to restructure themselves, so as to promote efficiency and effectiveness, with the relevant ICT serving as the enabler or driver of change (Dewan and Kraemer, 1998; Venkatraman, 1994).

This position is fully supported by key findings and related theories stemming from the extensive body of information systems implementation and innovation adoption literature, which will be the subject of review in Section 2.4.

2.3 The Digital Economy and the Public Sector

The rapid changes in the global economy and business activities - propelled by developments in the field of information and communications technology, invariably impact upon government operations. This is not an entirely new, 'post-Web' phenomena, as Renz (1988) argued that just as information technology was profoundly changing the structure of business, *new* computing and communications technologies will *dramatically change* the structure and function of government, at all levels.

This assertion, in light of global developments, is now undoubtedly more pertinent and valid. This creates an extremely challenging proposition for public sector organisations.

Conventional wisdom and research on IT-enabled Public Sector Reform suggests that change in government is supposed to be slow, gradual, and evolutionary (Renz, 1988; Willcocks and Mark, 1989; Dyerson and Roper, 1991; Halachmi, 1996; Kock and McQueen, 1996; Committee of Public Accounts, United Kingdom House of Commons, 1999).

This position tends to be reinforced and validated by extensive bureaucratic systems that slow the impact of external actions and changes (Bajjaly, 1999, Halachmi, 1996; Kock and McQueen, 1996). This is not the setting it would seem, for “dramatic changes”. It is clear that must there be a recognition and differentiation of which areas can and which cannot be changed and to continuously reintegrate this information into change programs, as well as ongoing organisational planning and action (Bellamy and Taylor, 1994; Bacon, 1991; Renz, 1988).

The size, complexity and pace of public sector information technology initiatives are also crucial considerations. (Committee of Public Accounts, 1999; Posner and Rothstein, 1994). Some argue however, that change in the public sector should mirror some of the radical transformations taking place in the private sector (Osborne, 2000; Butler, 1994; Tapscott, 1995). Indeed, major electronic government programmes have been sweeping across the North America public sector ‘like a prairie fire’ and many other countries have also adopted significant information technology enabled change initiatives as well (United Nations, 2000; 2002; OECD, 2001).

It would seem that just as the novelty of e-commerce and e-business has worn off, the next exciting Internet revolution on the way is e-government. Progress has been slow on *how* technology can achieve the new paradigm of governance. One major challenge in the implementation of information technology in the Public Sector is that persuading public servants to abandon “paper-shuffling ways and embrace change on a hitherto unimagined scale will require relentless pressure – as well as some of the carrots and sticks that keep people going in the private sector” (Halachmi, 1996; DeConti, 1998).

To achieve 'fully fledged e-government', with the attendant changes to the information technology, there would need to be profound changes in the culture, the processes and the relationships that define government as an entity (Mechling; 1994; Hammer, 1995; Caudle, 1995; Holtham, 2000; Osborne, 2000).

Developing countries must therefore be careful not to conceive of ICTs as a sort of panacea. Simply layering these technologies on existing systems, bureaucracies and processes will certainly not achieve developmental objectives, at the organisational or national levels (United Nations, 1996; Holtham, 2000).

More research is needed on the way in which the Internet is influencing, and can further enhance, economic activities and business processes in the public sector. Also, the examination of how skills and capabilities can be built up to tackle local and national problems, and on why some initiatives to use the Internet succeed, while others fail, is also a critical area of concern (Madon, 1999).

The implementation process and organisational change can also be viewed in terms of a managerial metaphor that is based on the weaving of a fabric, referred to as the 'Information Fabric' (Holtham, 2001). This framework reflects the relationship between four tangible dimensions and four intangible dimensions, akin to the creation of textiles by the use of fixed warp strands and the interweaving of weft strands. The four tangibles are: Information Systems, Technology, People and the Organisation and the four intangibles: Direction or Strategy, Knowledge, Process, and Climate (Culture).

These eight elements are woven together in the information systems implementation process or other organisational change initiatives. They are dynamic, and are subject to change over time and as circumstances and events unfold. The key argument here is that it is the 'intangible' dimensions that are often neglected in the IT implementation or change process. Also, in order to increase the likelihood of success of any initiative that seeks to effect organisational change, business *process* redesign or *knowledge* management, for example, the focus of management should be as 'designers and weavers' of the *overall*

fabric, as opposed to being ‘manufacturers of the individual threads’ (Holtham, 2001). In other words, the overemphasis on one or two aspects of the ‘fabric’, for example ‘process’, ‘knowledge’ or ‘technology’, at the expense of addressing *all* of the eight dimensions, and in particular the often elusive ‘intangibles’, would increase the likelihood of failure.

The analysis of the fundamental factors impacting upon the implementation of IS, as independent or ‘stand-alone’ initiatives or as part of IT-enabled change or reform programmes, can be discussed in terms of the existence of ‘conception-reality gaps’ (Heeks, 1999). In other words the success and failure of such IS implementation, is explained in terms of the extent to which gaps exist between the requirements and conceptual models, assumptions inherent or implicit within these new information systems on the one hand and the existing public sector realities, on the other (Heeks, 1999).

The Heeks (1999) model seeks to explain the success and failure in IT-enabled public sector reform in terms of ‘conception-reality gaps’. The outcome of information systems implementation stems from these root causes, that is, gaps that exist between the way in which the implementation is conceived and the existing public sector realities. The seven dimensions of this gap are: 1. Information factors, 2. Technical factors, 3. Process factors, 4. Objectives, values and motivations, 5. Staffing and skills (4 & 5 classified as people factors), 6 Management and structures and 7. Other resources: money and time (Heeks and Bhatnagar, 1999).

These gaps are classified under three broad archetypes: rationality-reality gaps; private-public gaps and country context gaps. This model is discussed further in Sections 6.1 and 6.2, which deals with the conceptual framework and operationalisation of the model adopted for purposes of this research undertaking, respectively.

2.4. Theoretical Perspectives

2.4.1 Information Systems (IS) Implementation Literature

“The track record for information technology implementation is not very good” (Benjamin and Levinson, 1993). This simple, but profound statement accurately sums up the international experience in information technology implementation over the last few decades. Information systems (IS) implementation can be characterised as a “technological innovation” by organisations or as “an organisational effort to diffuse an appropriate information technology within a user community” (Kwon and Zmud, 1987).

The unimpressive ‘track record’ for IS implementation includes the sensational failures of the ‘dot-com’ era, the inability to establish productivity and efficiency gains from major IT systems, the high failure rate (75%) of IT-enabled business process reengineering (BPR) and the considerable confusion about the role of IT in knowledge management and organisational learning (Willcocks and Mark, 1989; Edwards and Peppard, 1994; James, 1997; Kling and Lamb, 1999).

Organisations clearly need to be extremely cautious about implementing new business strategies that depend in critical ways upon complex information technologies. Scepticism about the likelihood of success in implementing information technology is hardly new. Ackoff (1967) notes that information systems often do not live up to expectations. He argues that the failures are due to mistaken *assumptions* about information technology.

Research findings since then consistently indicate that it is not ‘just a matter of time’, availability or ‘access’, before all organisations adopt online technologies. Some of the determining factors cited are: the need and incentives to use online technologies, the nature of the industry, the clientele and the inter-organisational relationships, the management of the implementation process and the capacity of the organisation to receive the technology (Kling and Lamb, 1999).

Research on IS implementation problems can be classified into three primary streams: factors, process and political (Kwon and Zmud, 1987). Based on the author’s review of the literature, these research streams and the various components and the specific dimensions or examples are presented in Table 2.2 below.

Table 2.2: Information Systems Implementation Research Streams

Research Streams	Components	Dimensions/Examples
Factors	Technical	Technical Expertise & Systems Development tools, Ease of Systems use, Systems Quality (Davis, 1989)
	Individual	Top Management Support, User Involvement, User Psychological type and cognitive style, User Knowledge and goal congruence (Franz and Robey, 1986; Ives and Olsen, 1984)
	Organisational	Organisational context variables, Contingency approach relating organisational factors to IS success (Heeks, 1999; Barki and Hartwick, 1994; Lucas, 1981).
Process	Planned Change Approach	Unfreezing, moving, re-freezing (Lewin, 1951); Kolb & Frohman (1970), modified and expanded the Lewin model: 1. Scouting; 2. Entry; 3. Diagnosis; 4. Planning; 5. Action; 6. Evaluation; and 7. Termination.
	Innovation Process Approach	Thompson, 1969: Model of Innovation Process: 1. Initiation 2. Adoption, 3. Implementation. Kwon & Zmud (1987), expanded general process model: 1. Initiation, 2. Adoption, 3. Adaptation, 4. Acceptance, 5. Use (routinization), 6. Incorporation (infusion).
Political	Conflicting interest of the multiple stakeholders	Sequence and direction of implementation can be explained in terms of the conflicting interest of the multiple stakeholders (Keen, 1981; Kling & Iacono, 1984; Kwon & Zmud, 1987; Markus, 1981/83; Saunders, 1981).
	Conflict among users for more power	Markus (1983), resistance to change and implementation difficulties in terms of conflict among users for more power.
	Interaction Theory	Kling (1980), people oriented theory, system-oriented theory and interaction theory.
	System of Games	Implementation process as a systems of games; Grover, Lederer and Sabherwal, 1988; Keen, 1981; Mintzberg, 1983.

The past thirty years of research on information systems implementation, across the research streams and irrespective of the components studied, has been consistent primarily in one respect; outcomes of the IS implementation process have been variable, and often far below expectations. This study falls into the Factors stream, with the components of IS implementation being analysed at the Organisational level. At the secondary level, factors at the individual and technical levels are also examined, including elements of the Innovation Process research stream, as it relates to IS implementation and organisational processes. In particular, organisational context variables and factors which may impact on the success or failure of IS implementation efforts are examined, from the perspective of public sector organisations.

Lyytinen and Hirschheim (1987) conducted a comprehensive review of the literature on information system failure. They point out that failure is an extremely complex concept and that failures can occur in several different domains - technical, data, user, and organisational. Defining failure as "...the inability of an IS to meet a specific stakeholder groups' expectations", they contend that the concept of expectation failure allows for failure to be viewed as a continuum rather than a discrete event.

The investigation of the key problem areas, which may lead to the failure, with respect to information systems implementation in the public sector constitutes the focus of this work. Problematic issues may arise from the point of IT purchasing decisions and pervade throughout the process, affecting most aspects of the management of technology and information resources (Rocheleau, 1997). A summary of potential problems and associated causes is presented in Table 2.3 below:

Table 2.3: IT Implementation Process in the Public Sector

Problem/Limitation	Cause(s)
Purchasing Process	Slowness, rules, appeals, lack of skills of public sector employees, poor priority-setting
Development Process	Technical problems, poor project management, overwhelming complexity, grand design approach
Inadequate Training	Lack of investment, low priority, poor quality of training
Information Overload	E-mail, Internet and other network access
Poor quality of data	Inadequate oversight, lack of technical control, organisational resistance, non-use spurs indifference
Obstacles to Sharing data	Interoperability problems, database incompatibilities, organisational obstacles
Inadequate Payoffs	Lack of use, marginal role of digital data, theory failure, poor implementation
Rich Data Prevails Over Digital	Marginal role of digital data, need for confidentiality & politics
Poor Management Dominates	Information system reflects management

Adapted from: Rocheleau (1997)

2.4.2 Innovation Adoption Literature

The adoption and diffusion of innovation, within organisations, has been studied in the United States and Europe for over four decades (Van de Ven and Rogers, 1988). A widely accepted definition of organisational innovation is “the adoption of an internally generated or purchased devise, system, policy, program, process, product or service that is new to the adopting organisation (Daft, 1982; Damanpour and Evan, 1984). Van de Ven and Rogers (1988) defines an innovation as “an idea or practice that is perceived as new by an individual or unit of adoption”.

Adoption refers to the decision to make full use of the innovation as opposed to related alternatives. Diffusion is the process by which the innovation is communicated and implementation through various channels over time and used among members of a social system (Damanpour and Evan, 1984).

Early innovation research began with the investigation of individual decision makers such as farmers, teachers and doctors, in order to understand how the perceived attributes of an innovation affected its rate of adoption by individuals (Van de Ven and Rogers, 1988). Later research extended the unit of analysis to include the organisation as the adopter. *Organisational* innovativeness was studied to determine the variables related to more innovative and less innovative companies.

Diffusion theory has also been used to understand the innovation process within a single organisation over time. Significant findings from this branch of research indicate that organisational structure characteristics, such as formalisation and centralisation tend to be negatively related to organisational innovativeness (Swanson, 1994; Zmud, 1984). In the innovation adoption literature, organisations have been classified as “mechanistic” and “organic”, based on patterns of adaptation to technical and commercial change (Burns and Stalker, 1961). The implications for the innovation process in public sector organisations, which typically have formalised, centralised structures and would be classified as “mechanistic”, are obvious.

One of the primary reasons for the increased attention to the adoption and diffusion of innovations within organisations was the widespread introduction of computer-based information systems in many different kinds of organisations throughout the 1980's and 1990's. As noted earlier, the failure rate of these IS implementations has been quite high. There is therefore a considerable amount of theoretical and practical interest in better understanding how computer-based technologies can be integrated more effectively into organisations (Terry, 2000; Ethiraj, Guler, and Singh, 2000; Andersen, 1999; Bajjaly, 1999; Coulson-Thomas, 1998; Benjamin and Levinson, 1993; Van de Ven and Rogers, 1988).

The characteristics of an innovation have often been used to describe the relationship between an innovation and its adoption and implementation (Downs and Mohr, 1976; Tornatzky and Fleisher, 1990). In a meta-analysis of research findings from seventy-five (75) articles, Tornatzky and Fleisher (1990) conclude that while over thirty (30) characteristics had been studied, *compatibility and complexity* were the innovation characteristics most consistently related to adoption and implementation decisions.

According to Rogers and Shoemaker (1971), the compatibility of an innovation is the degree to which it is perceived as being consistent with existing values, past experiences and needs of the receivers of the innovation. This definition suggests that compatibility can be related to: (1) how people think and feel about a technology or (2) how it fits operationally with what they are doing. Research that has tested compatibility has typically used either one of these definitions in an attempt to understand the innovation characteristics and adoption. Findings suggest that the more an innovation is perceived as being compatible with an organisation's current systems, procedures, and values, the greater the likelihood of adoption and implementation (Kimberly and Evaniskov, 1981; Van de Ven and Pool, 1990).

Complexity is the degree to which an innovation is perceived as being relatively difficult to understand and to use (Van de Ven and Rogers, 1988). While an innovation may appear to be beneficial, the organisation may not possess the necessary skill or resources to utilise the innovation. The perceived complexity of an innovation is generally found to be negatively related to adoption and implementation (Van de Ven and Rogers, 1988; Tornatzky and Fleisher, 1990). Perceived complexity has also been found to be negatively correlated to innovation diffusion (Premkumar and King, 1994).

Innovation characteristics have been studied specifically in the information systems domain where technological innovations or computer systems implementations were examined (Hayward, et al. 1976; Iacovou, et al. 1994; Kwon and Zmud, 1987, Zmud and Apple, 1992). Tornatzky and Fleisher (1990) define a technological innovation as "the situationally new development and introduction of knowledge-driven tools, artefacts, and

devices by which people extend and interact with their environment". The definition suggests that all technological innovations are 'knowledge-based', and are used to manipulate or interact with the environment. It is further suggested that given the 'complex, context-sensitive' nature of this phenomenon - innovation - careful attention must be paid to the 'personal, organizational, technological and environmental contexts within which it takes place' (Tornatzky and Fleisher, 1990)

Another key finding, with regard to the present study is the concept of 'organizational lag' in innovation. Damanpour and Evan (1984) argue that administrative innovations⁵ in organisations tend to lag behind technical innovations. Possible reasons given are that technical innovations: are more observable; have higher 'trialability'; and are perceived to be relatively more advantageous and less complex than administrative innovations.

The fundamental parallels between the implementation of technological innovations and information systems implementation research have been proffered by Duncan (1974), Keen and Scott Morton (1978), and Zmud (1984). In addition, Zmud (1984) recognised the importance of assessing information technology innovations in order to facilitate the diffusion of appropriate information technologies throughout organisations.

Wolfe (1994) concludes that, despite extensive interest and the accumulation of a vast body of literature, understanding of innovative behaviour in organisations remains 'relatively undeveloped as the results of organisational innovation research have been inconclusive, inconsistent and characterised by low levels of explanation' (Wolfe, 1990: 405).

It is noteworthy that research on IS implementation (Reviewed in Section 2.4.1. above) and organisational innovation adoption have converged to a great extent (Galliers and Swan, 1999). Both of these strands of literature identify the broad research streams, with respect to IS implementation or innovation adoption: diffusion research, factor research and process research. Using the Heeks (1999) model as the primary conceptual framework, this study focuses mainly on the factors stream, and to a lesser extent, on the process stream.

⁵ Innovations which focus on improving internal control, co-ordination and structure.

2.4.3 Process Innovation

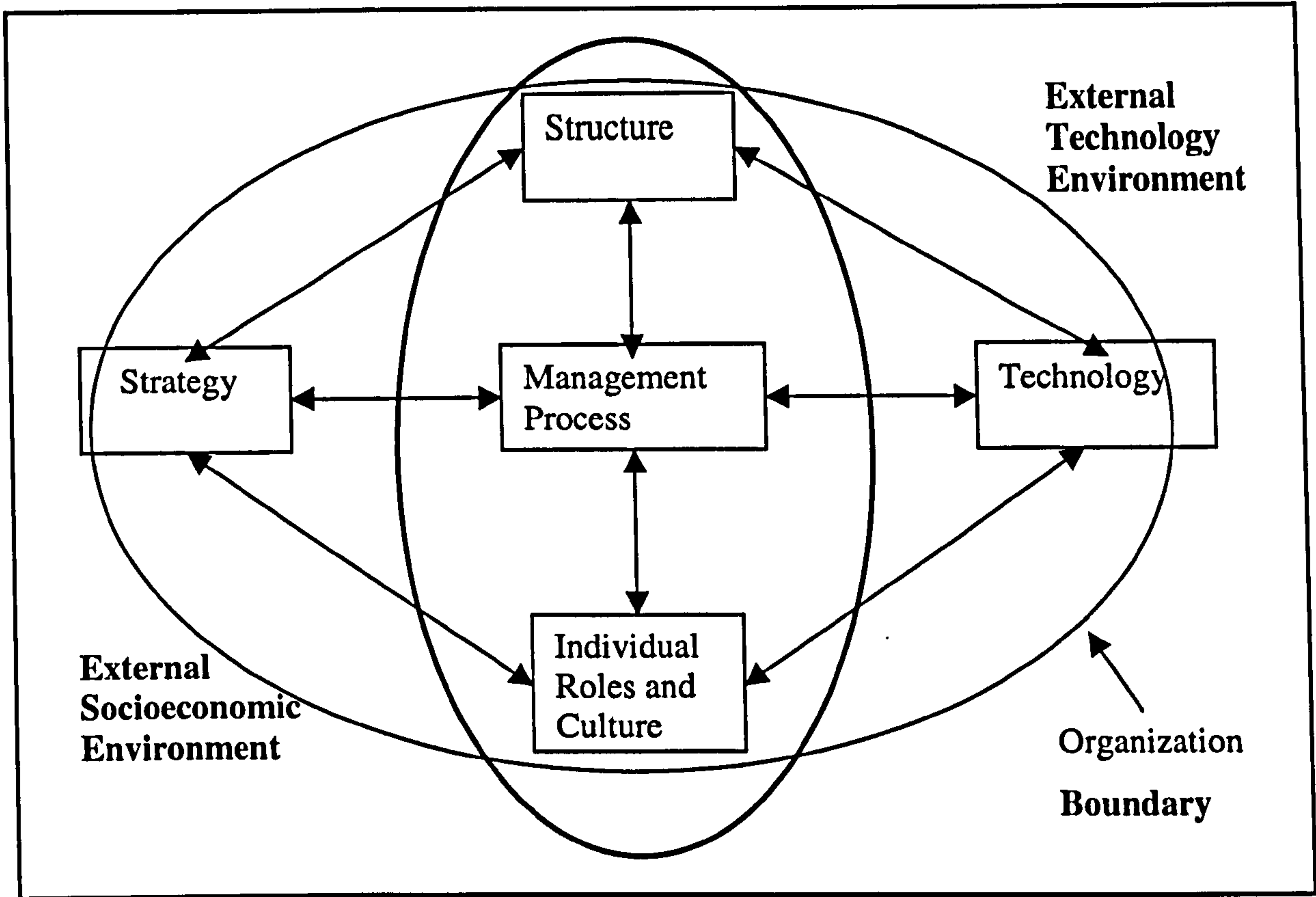
Process orientation and focus for business improvement can be traced back to numerous approaches in the past. Davenport (1993) notes that theoretical roots of process innovation include the quality movement, industrial engineering and systems thinking; the work design from socio-technical schools of thought; technology innovation and competitive use of information technology. The dynamics of processes and organisational design have been widely discussed by academics and utilized by practitioners to formulate organisational structure, work design and resource interdependence (Van de Ven and Pool, 1990; Mohr, 1982; Gibson and Jackson, 1987).

A key aspect of process innovation is the adoption of a 'process view' of the business operations. This entails an emphasis on structure, focus, measurement and customers, utilizing a structured set of activities designed to produce a specified output for a particular customer or market (Davenport, 1993; Venkatraman, 1991; 1994). Process "encapsulates the interdependence of tasks, roles, people, departments, function...that is required to provide a customer [internal or external] with a product or service" (Earl and Khan, 1994).

A useful perspective on the issue of process innovation, in relation to this work, is provided by Clark and Stoddard (1996). They make a distinction between process and technological innovation. While, Davenport (1993) refers to technological innovation as an enabler of process innovation, Clark and Stoddard (1996) contend that although process and technological innovation are 'often interdependent', they represent distinctly different dimensions that can be adopted independently. Using a case study approach, their findings indicate however, that a merger of technological and process change is needed to achieve 'dramatic performance improvements both within the organization and with channel partners' (Clark and Stoddard, 1996; Dyerson and Roper, 1991; Earl and Khan, 1994).

Figure 2.1 illustrates the role of ‘processes’, in a model developed in the landmark study on IT-enabled change.

Figure 2.1: The MIT 1990’s Framework



Source: Scott Morton (1991) *The Corporation of the 1990's: Information Technology and Organizational Transformation*, Oxford University Press Inc, p. 20

The interrelationship between the five key elements analysed: strategy, technology, individual roles and culture, management processes and structure is reflected above. While a notable contribution of this work was the recognition of the centrality of management *processes* in the planning and execution of IT and organizational transformation, it is the need for balance among the five elements that is the most relevant for purposes of the present study. A key finding, however, is that the dismal performance of IS implementation efforts is primarily a result of the consistent neglect of the following three elements: *individual roles and culture, management processes and structure.*

2.4.4 Business Process Redesign/Reengineering (BPR)

One of the most striking features of business process reengineering (BPR) is the wide variety of definitions, and indeed, 'titles' that have been proffered by academics and practitioners. A comprehensive review of articles published in the leading academic journals, professional business magazines and books, from the late 1980's to 1998 found, not only was there significant variation in the definitions of BPR, but also the 'titles' attached to the concept also varied substantially⁶ (O'Neil and Sohal, 1999).

There are, however, some unifying concepts with regard to business process reengineering or business process redesign (BPR), as practised in organisations and evident in the literature. Foremost of these are, BPR: seeks dramatic improvements in efficiency, cost, quality and performance; aims for a fundamental transformation of business processes; viewed as large-scale, radical organisational change, enabled or driven by information technology.

Limitations and criticisms of BPR are many. In addition to the inordinately high implementation failure rate, some of the primary issues raised have been: the lack of a coherent methodology (Earl and Khan, 1994); the absence of a sound theoretical framework (Galliers and Swan, 1999); the marginalisation of the human, social and political processes (Mumford, 1994); and that BPR is simply a new manifestation of the 'age old' scientific, classical school of management, emphasising the rational/analytical conception of organisations (Andersen, 1999).

The validity of the 'clean state approach' is highly questionable. Hall et al. (1993) suggests that effective transformation of an organisations' core elements⁷ requires 'starting from scratch'. Davenport, however, refers to the *practice* of reengineering as 'a code word for mindless bloodshed', asserting that "...when I wrote about business process redesign in

⁶ Core process redesign (Kaplan and Murdoch, 1991), business process transformation (Burke and Peppard, 1993), breakpoint business process redesign (Johanssen et al., 1993), organisational change ecology (Earl et al., 1995)

1990, I explicitly said that using it for cost reduction alone was not a sensible goal". Indeed, two names most closely associated with reengineering – Michael Hammer and James Champy claim that 'layoffs shouldn't be the point...today, reengineering has become a word that stands for restructuring, layoffs and too-often failed change programs' (Davenport, 1995).

It is instructive to note the perspective proffered by Earl and Khan (1994). They contend, that "...the fulcrum and distinctive element of business process reengineering is process." Davenport (1995), concurs, and states that the "...most profound lesson of business process reengineering was never reengineering, but business processes."

2.4.5 Process Innovation, BPR and the Public Sector

Again, the distinction in this study between the 'management fad' or practice referred to as BPR (Abrahamson, 1991; Hammer and Champy, 1990), on the one hand, and process redesign (Venkatraman, 1994) and process innovation (Davenport, 1993), needs to be borne in mind with regard to the relevance of a 'process' focus in public sector organizations.

Kock and McQueen (1996) found that re-engineering's failure rate is likely to be even higher in the public sector than it is in the private sector. They contend that this is related to factors, which re-engineering groups may not be able to control, and that are characteristic of public sector organisations. Two of the main characteristics identified were: the multitude of purposes that many public sector organisations may have to serve and the fact that 'political issues and visible outcomes' may be considered of higher importance in public sector organisations than 'mere organisational results', depending on the political orientation of those involved.

⁷ Six core elements or 'depth levers' are identified: roles and responsibilities, measurements and incentives organisational structure, information technology, shared values and skills.

The result is often the avoidance of a radical change approach, where the underlying structure of processes is the focus of improvement. The focus is often on the improvement in the efficiency of those processes (or procedures) and the solution of ‘superficial problems’, which is often still held out as a process-focused approach to improvement (Kock and McQueen, 1996). Their conclusion, consistent with many others, is that reengineering in the public sector, at best, would be extremely difficult and may not be at all possible (Mechling, 1994; Willcock, 1994; Dyerson and Roper, 1991; Bellamy and Taylor, 1994; Mukherjee and Braganza, 1994; Halachmi, 1996, 1997; Heeks, 1999; Andersen, 1999).

Some more feasible ways to radical change in the public sector, as other studies indicate, are privatisation, partnerships with the private sector and community empowerment. Where dramatic changes are required the pace, timing and scope, and implementation strategies are all critical determinants of success or failure (Willcocks, Currie and Jackson, 1997; Davidson, 1999; Bajjaly, 1999; Arnold, 1995; Bacon, 1991).

Quinn’s theory of logical incrementalism (1989), for example, suggests that the *current circumstances* need to be taken into account in effecting change, albeit not necessarily used as the basis for the new processes or structures. There is also evidence that radical improvements can be achieved through incremental change (Senn, 1992). Further, it has long been established that periods of change need to be followed by periods of relative stability during which time the change is being put into effect (Lewin, 1951).

Notwithstanding the cautionary evidence with respect to the more radical approaches to process change, getting full value out of technology and information systems is only possible through business process redesign or business network redesign, and not through the incremental automation of technology only (Halachmi, 1997; Heeks, 1999; Andersen, 1999; Holtham, 2000). The challenge clearly lies in the fact that the public sector, in the United Kingdom and beyond, has consistently displayed a “strong predilection for structural and technological change” as opposed to “process and network change” (Holtham, 2000).

2.5 Electronic Business Frameworks and Models

The dramatic increase in electronic business, characterised by the exponential growth in commercial activities over the Internet has resulted in the development of a number of frameworks and models that seek to foster a better understanding of what businesses are doing on the web. This work ranges from the descriptive, explanatory, and in some cases is predictive in orientation. The aim of this section is to provide an overview of the key frameworks and models.

The increasing body of literature in this area notwithstanding, studies thus far have, for the most part, failed to systematically address the e-commerce evolutionary process as it relates to concepts of 'compatibility' and the capacity of organisations to adopt and effectively leverage the new technologies. Also the interrelationship between the increasing complexity of e-business activities and processes and the organisational realities that may lead to the failure of information systems implementation efforts need to be more fully explored (Porter, 2001; Tapscott, Lowy and Ticoll, 2000; Burgess and Cooper, 2000; Goldstein and O'Conner, 2000).

An overview of the emerging literature in this area indicates that basic classification frameworks, simple descriptive models, coincide with the earlier stages of electronic commerce, followed by more robust explanatory models, with richer descriptive elements, emerging later in the development process.

The relevant frameworks and models that are applicable for this study fall exclusively into the former category. This is due to the fact that the level of Internet adoption and implementation of web-based systems in the geographic region of interest, for the most part, reflects characteristics of the early stages of development of electronic business. This portion of the review therefore focuses on the early e-business frameworks, which essentially build upon the idea of the Web creating a new space in which to transact business (Press, 1994; Corkburn and Wilson, 1996).

Angehrn (1997) developed a 'generic framework' that could assist managers, and academics, in understanding the opportunities and threats generated by the Internet, thereby enhancing the process of devising adequate strategic positions and responses. In this framework, firms are categorised in a 'virtual space', based on the nature of their involvement in Internet commerce activities. Four such spaces are identified: a virtual information space, a virtual communication space, a virtual distribution space and a virtual transaction space⁸. These spaces are also significant due to the fact that they correspond to different strategic objectives and require different types of investment and organisational adjustments (Angehrn, 1997).

A firm operating in the virtual information space would be focused on visibility. The web site would simply be used as a new channel to display and as a means to access company related information. The virtual communication space entails a higher level of interactivity. The firm would be aiming to engage in 'relationship building', through the interchange of information and ideas. Operations in the virtual distribution space would be concerned primarily with the electronic delivery of services and products. The obvious limitation would be the extent to which any given product or service can be wholly or partly digitised (Wallis and Holtham, 2001). Software, consulting services, music, films and books, for example, are perfectly suited for such distribution.

The virtual transaction space relates essentially to online trading. It represents a new channel for initiating and executing business related transactions, such as orders, commitments, invoices and payments. The following figure provides a summary of Angehrn's (1997) framework and the key characteristics of each space. This framework has been used to assess the Internet "maturity" of firms, as well as entire sectors (Angehrn and Meyer, 1997).

⁸ Hence the acronym ICDT - corresponding to the primary activities undertaken by the firm in the use of web technologies: Information, Communication, Distribution or Transaction.

Ho's (1997) analysis of business use of the Web employed a 3 x 4 dimensional matrix model. The model was developed in terms of three primary business processes: (promotion, provision and processing) on the one hand and the value creation for the customer, on the other. The customer value dimensions include 'timely, custom, logistic and sensational', which were mapped in a matrix structure, against the three processes above.

Burgess and Cooper (2000), drawing upon this framework, developed a model, referred to as: a model of internet commerce adoption (MICA). Like Angehrn's framework, this model has also been used to assess the level of maturity of electronic commerce, at the firm and industry level. The focus of this work is the electronic commerce evolution process and the way in which web sites develop over time.

The MICA posits that in developing commercial web sites, organisations typically begin by establishing a simple 'presence' on the web (parallel to the Information quadrant in Angehrn's ICDT model) and build on functionality over time. A primary function of the model is, therefore, to explain how commercial web sites develop to incorporate more complex aspects of internet commerce. Three stages are identified: promotion, provision and processing, corresponding to the information, communication and transaction spaces, respectively.

Quelch and Klein (1996) proposed two classifications of web sites, based on content. They conclude that web site functionality incorporates either information support or transaction processing. Their findings suggest that information support sites were clearly evident on the Web, but sites supporting business transaction processing were embryonic in their development.

Cappel and Myerscough (1996) found that five (5) types of sites were evident and categorised these as: marketplace awareness, customer support, sales, advertising and information provision. Whiteley's (1998) model of electronic data interchange (EDI) maturity also provides a useful perspective on the issue of electronic commerce maturity

and on the corresponding organisational adjustments or changes (Grant, 1999). Six (6) stages are outlined in this model:

1. Discovery: awareness of the technology and its possible relevance and potential benefits to the organisation;
2. Introductory: initial attempts at adoption of the new technology;
3. Integration: linking of web-based processes with other business processes;
4. Operational: processes are extended to the majority of business partners;
5. Strategic: realisation of significant gains through fundamental changes in business practices; and,
6. Innovative. New products and services are enabled.

The Angehrn (1997) framework is adopted for this study due to its conceptual clarity and simplicity. It also lends itself well to fairly rigorous operationalisation methods as the lines of demarcation within the model are well defined and measurable.

2.6 Management of Tourism Literature

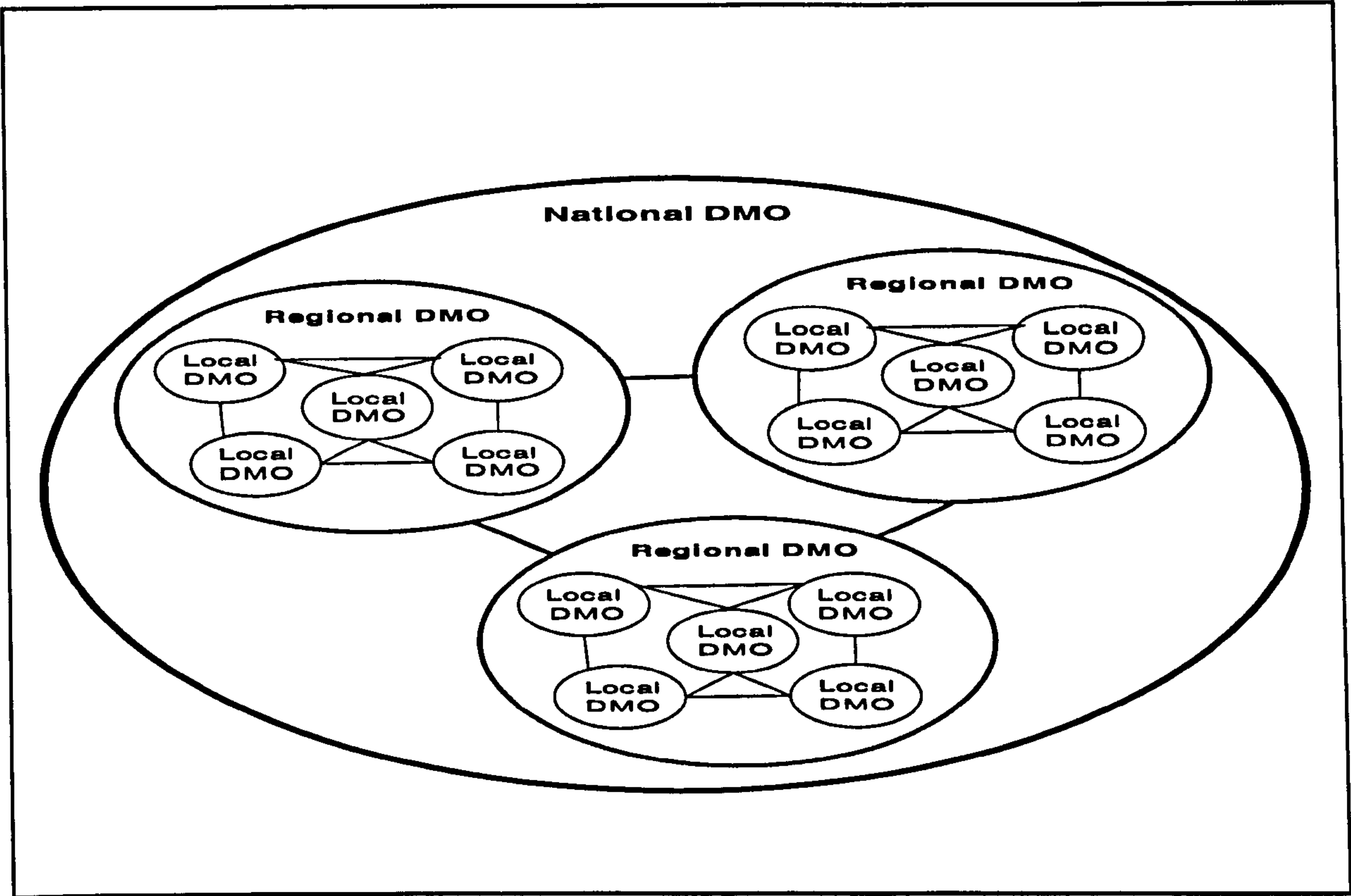
2.6.1 Destination Management Organisations

One of the primary products of the tourism industry is a tourism destination, regarded a complicated product, an amalgam of products (Goodall and Ashworth, 1988). It consists, for example, of climate, infrastructure, services, natural and cultural resources, among others. The plurality of interest groups and destination concerns is also noteworthy. Consequently, the formulation of policies with respect to the economic, societal, environmental and ecological dimensions of tourism are significantly influenced by various stakeholders - residents, investors, employees, tourists, tour operators and intermediaries, - all with, sometimes conflicting desires, requirements and motivations (Laws and Scott, 2001; Buhalis, 2000).

The destination management organisation (DMO), sometimes referred to as destination marketing organisation, is the entity that has the official responsibility for tourism of all types and for the provision of information and, in some cases, reservation services, for visitors. In most countries, including the Caribbean states, destination management (or marketing) functions are carried out by a public sector, or in most cases, a quasi-governmental organisation, whilst tourism planning, development and management remain with the public sector (Carter, 2001).

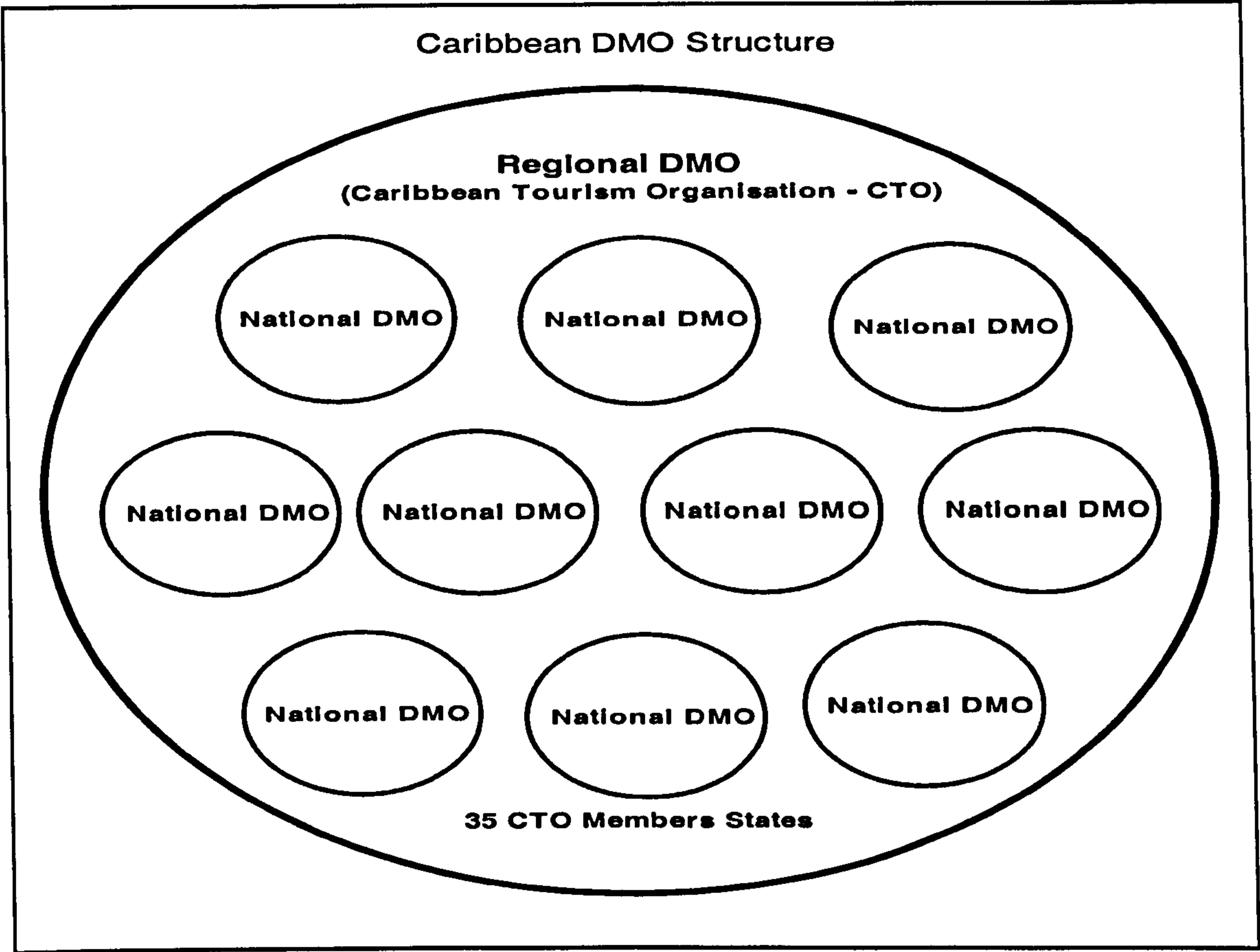
The organisations that manage destinations operate at different levels: regional, national and local, depending on the geographic characteristics of the destination and are referred to as destination management organisations. In relatively large destinations or regions, the typical configuration is that of a National body, embracing several regional organisations (representing regions within a particular country), which are themselves comprised of various local destination management organisations, as illustrated in Figure 2.2 below:

Figure 2.2 International Destination Management Organisation Structure



In the case of the Caribbean, which is made up of very small national destinations, the structure is such that there are National Tourist Offices/Destination Management Organisations (DMO's) for each of the islands. These entities are grouped together under the regional umbrella body, the Caribbean Tourism Organisation (CTO). Notwithstanding the respective destinations affiliation with the CTO, they are not engaged in any 'bilateral relationships' in the tourism area (as illustrated in Figure 2.3 below), and see each other primarily as competitors for the international tourist market, and also as source markets, with respect to intra-Caribbean tourism.

Figure 2.3 Caribbean DMO Structure



There are no local destination management entities (as in Figure 2.2), except for agencies representing specific concerns, attractions and sites, which sometimes corresponds to geographic localities, but are by no means operating as DMO's in the broad sense.

A key part of the marketing functions of DMO, is the role played by overseas offices in the execution of the advertising campaign and publicity materials and the promotion of sales through the media and the travel trade (Cooper et al, 1998). The national tourism organisation (NTO) is responsible for marketing countries as tourist destinations. The marketing function can be extended to include the functioning as: guardian of the image, scene setter, trail blazer, marketing co-ordinator and monitor of visitor satisfaction (Gretzel, Yuan and Fesenmaier, 2000).

Beyond the promotion activities in overseas markets, the National Tourist Office marketing efforts include the positioning of the destination and accurately conveying the image based on policy objectives and product characteristics. A distinction can also be drawn between destination marketing, which has traditionally been the role of the Public sector, at the national or regional level, and product marketing, often regarded as the role of the private sector. Destination marketing focuses on creating awareness, knowledge, interest and preference for the destination, as opposed to product marketing which combines similar promotion for particular products, as well as completing the transaction with the consumer for the product or service. Product development, on the other hand focuses on the management and development of the destination as a whole and often falls within the remit of the public sector (World Tourism Organisation, 1999c; Marcussen and Morthorst, 1996).

In the case of St. Lucia, for example, which is dominated by large all-inclusive properties and international hotel chains, private sector marketing activities in overseas markets surpass the efforts of the National Tourist Office in terms of the scope and allocation of financial resources. The marketing budget of the Sandals all-inclusive hotel chain, for instance, which owns three properties on the island, greatly exceeds that of the National Tourist Office. The issue invariably arises as to the accuracy of the image that is portrayed of the destination in overseas markets.

Market research conducted by the SLTB show that many potential visitors think of the island as expensive and at the high end of the market. While this is true to some extent, the abundance of smaller properties: small hotels, villas and guesthouses that make up the room inventory, does provide a much wider range of options to the high cost, ultra luxurious accommodation. Relying on the large resorts as the primary or dominant channel through which a small destination is promoted, whilst being extremely beneficial as a means of augmenting the limited reach of scarce resources, may certainly result in a distortion of the totality of the product offering.

Additionally, the fact that most of the smaller properties are locally owned has public policy and economic implications for the island. The circulation or spill-off down effects of

the tourism revenue generated by these smaller properties is far more consequential to the local economy. Notwithstanding the above differentiations and concerns, the need for public-private sector partnerships in the planning, promotion & marketing, and development of destinations is of particular importance to developing nations. The World Tourism Organisation found that the main area in which public-private co-operation/partnership in tourism has developed is that of marketing and promotions, and in particular, electronic marketing and distribution. This area of collaboration is expected to take on an even greater level of importance in the future (WTO, 2000).

More than one-third of respondents in the WTO (2000) study, representing both the public and private sectors, indicated that they had participated in co-operative marketing programmes and trade shows where the Destination Management Organisation co-ordinated collective participation with the industry, usually covering part of the exhibitor cost. The Caribbean Tourism Organisation (CTO), for example, has always been the coordinator of the 'Caribbean Villages' at all of the major international trade shows: World Travel Market, London and ITB, Germany. Also, more significantly in this private-public sector partnership vein, was the launch of a major joint CTO/Caribbean Hotel Association (CHA) television advertising campaign, targeted at the United States market. The programme operates under the logo 'Life Needs the Caribbean'.

Middleton (1994) contends that the principal marketing role of NTO's has been seen in fairly narrow promotional terms of creating and communicating appealing destination images and messages to prospective visitors, mainly through public relations and print. As the private sector is directly involved in delivering the tourism product, National Tourist Office activities should therefore entail a considerable emphasis on developing a co-ordinated approach to promoting their destination abroad (Faulkner, 1997).

Most NTO's will invest a significant portion of their budgets in promoting destination awareness and influencing customer's attitudes by adopting the promotional and facilitation strategy. The promotional strategy requires NTO's to implement a promotional campaign to project the desired destination image and communicate to targeted segments of potential

visitors. Such campaigns are necessary to create awareness and the positioning of the country image internationally. The facilitation strategy, on the other hand, creates opportunities for marketing cooperation between the NTO and the operators, at the individual or collective level, in the travel and tourism industry. Three primary considerations are relevant in this process:

1. the destination country has specific government policy objectives in the promotion of tourism in economic, social and environmental terms, as well as the achievement of marketing goals;
2. the destination country possesses a range of tourist areas, products and segments;
3. the constraints on the National Tourist Office financial resources in undertaking marketing tasks.

Regional destination marketing, as contrasted with national marketing, entails the promotion of the entire region, as opposed to a single country destination. With respect to the Caribbean region, this approach is based on the premise that the Caribbean brand is already a well established, strong and successful brand and that regional marketing strategy is about maximising the usefulness of this existing brand awareness in an increasing sophisticated and competitive marketplace (CTO, 2001).

A perennial dilemma for the NTO's in the Caribbean is the need for apparently conflicting joint marketing initiatives, primarily in the light of scarce resources, against the reality that countries are unsure about whether there is greater competition from the world's other tourism regions or from their neighbouring islands, "...frequently the enemy next door seems to have a greater presence" (Mather and Todd, 1994). Further, the merits of promoting the Caribbean as single destination are called into question due to the fact that many see the region's diversity as a key feature of its appeal, and consequently, it is argued that to present a homogenised whole, tends to dilute the individual features which are the countries unique selling points.

Recent attempts at joint regional marketing have explicitly sought to address the above concerns by capitalizing on the assertion that a Caribbean holiday can offer varied experiences and thus increase the potential for meeting diverse visitor requirements. The targeting of niche markets (wedding and honeymoon; nature and heritage; sports and entertainment; scuba diving, etc.) also factors in significantly with respect to regional marketing undertakings.

In addition to promotion and marketing, other functions of DMO's include:

- the general administration of travel and tourism;
- planning and investment;
- research and statistics; and
- vocational training.

The general administration of travel and tourism involves providing the necessary linkage between the trade, professional bodies, tourist offices at home and abroad and government departments. Planning and investment includes physical planning and economic planning, infrastructure, transportation, accommodation, preservation and enrichment and maintenance of natural and historical attractions. Research and statistics involves the collection, analysis and interpretation of data. Vocational training entails organising training courses and producing handbooks and other material (WTO, 1986).

The broader role and scope of DMO operations is reflected in the conclusions of the United Nations Conference on Trade and Development (UNCTAD) 2001 'E-Commerce and Development Report' that; "the role of the DMO, an organisation dedicated to a single destination, is fundamentally different from the role of an intermediary without a destination focus or responsibility". They note further that this, particularly, 'has led many DMO's to realize that promoting environmental and cultural sustainability is vital for maintaining their destinations' touristic competitive edge'.

As alluded to earlier, an important objective of DMO's is therefore to build a global brand for the destination and inspire credibility and trust among consumers (UNCTAD, 2002).

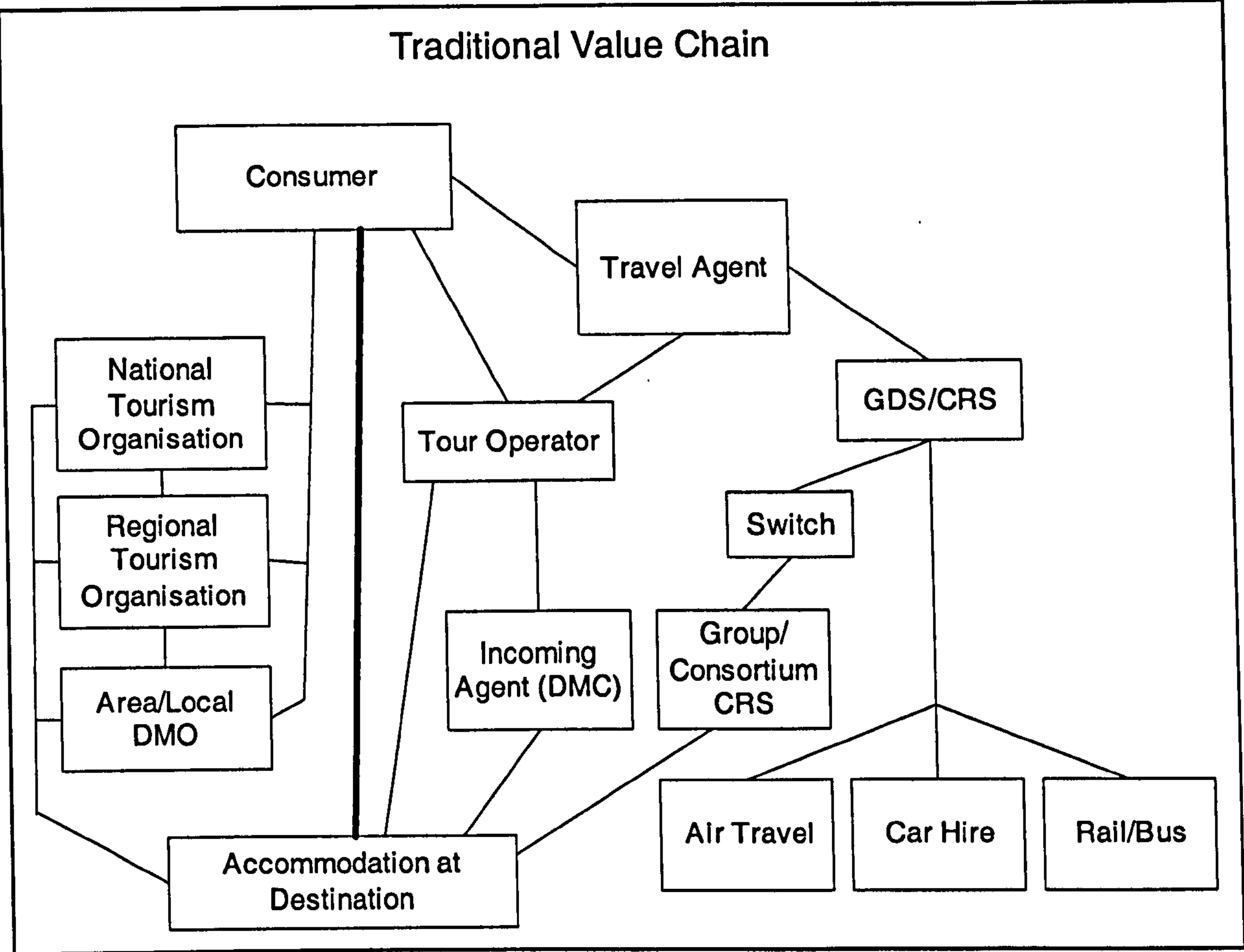
Targeting niche markets, based on the individual, personal preferences of potential visitors, leveraging the Caribbean brand, while directing them to the specific products that can fulfil various needs is also an important consideration.

The location of the Destination Management Organisation with the tourism value chain is of tremendous importance. This tourism value chain, or supply chain can be regarded as the chain through which the potential traveller obtains information and purchases tourism products (Carter, 2001). Traditionally there have been two, quite distinct sets of value chains linking the tourism product supplier with the consumer.

The commercial value or supply chains and the Destination Management Organisation chains. The primary differentiating feature of these supply chains is that the commercial chains have been, characteristically, focused on transaction and weak on destination information. The Destination Management Organisation supply chains have typically been strong on destination information and weak on transactions (WTO, 1999; 2001; Buhalis 2000; Frew, 2000a)

The shape of the tourism value chain, has changed in a fundamental way, over the last five years (WTO, 2001, UNCTAD, 2000). It has been noted that the commercial sector, and in particular, airlines and hotels groups has made significant use of ICT, as opposed to the DMO value chain, which has made only limited use of the new technology (WTO, 2001). Further, a key distinguishing factor between the commercial enterprises and DMO's is that commercial chains have been strong on transactions and weak on destination information, whilst the latter (DMO chains) has exhibited the reverse pattern (WTO, 2001, UNCTAD, 2002). Figure 2.4 below portrays the traditional tourism value chain:

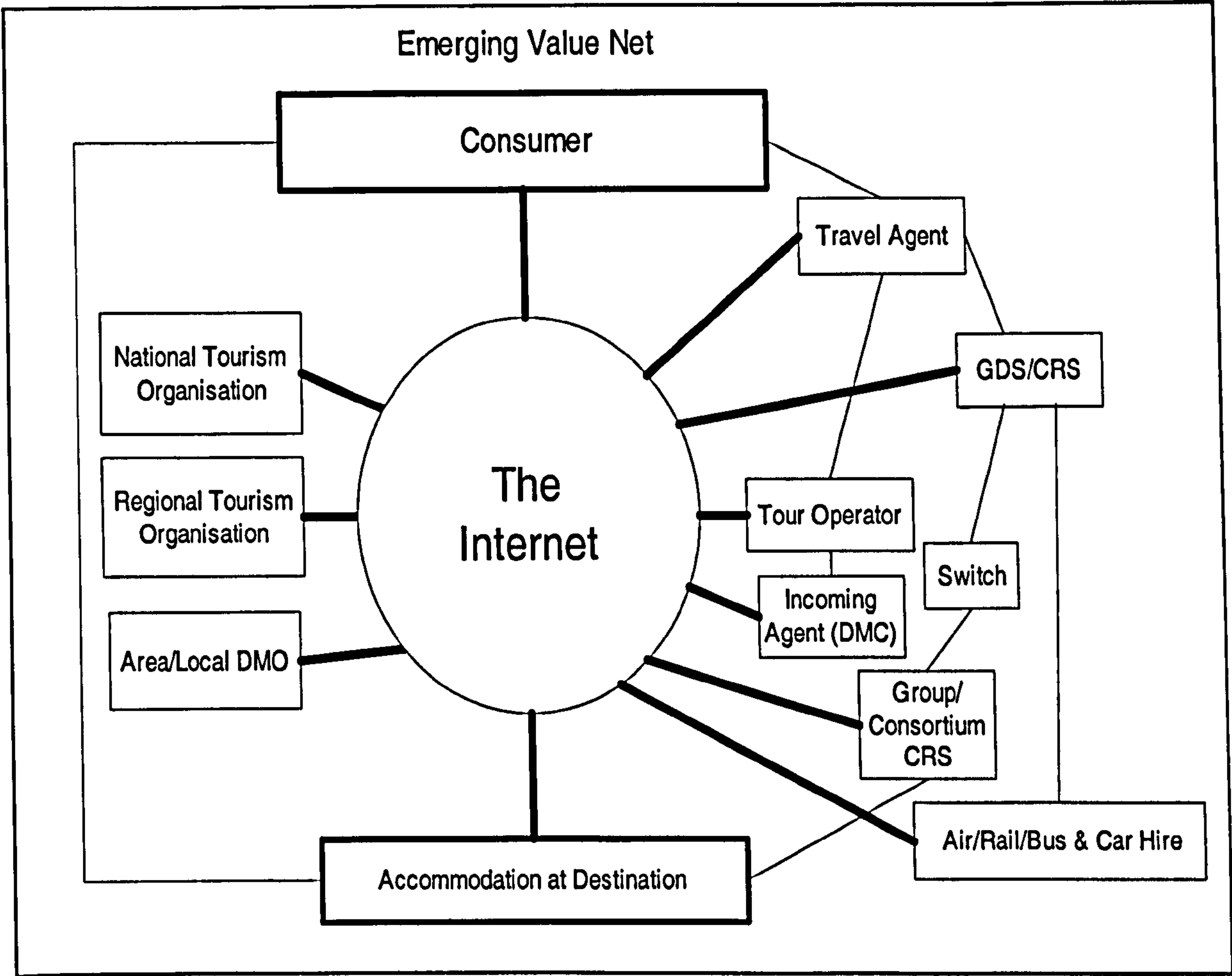
Figure 2.4 Traditional Value Chain



Source: World Tourism Organisation, 1999

It has been widely recognised that the overall structure of the industry and the corresponding value chain has changed, largely as a result of the use of the Internet, both from the supplier and the consumer perspective. This new Internet based ‘Value Net’ (illustrated in Figure 2.5 below), is based largely on the fact that any player within the system can communicate and interact electronically with each other, resulting in a myriad of opportunities for increased business-to-business (B2B) interaction, as well as direct selling to consumers, business-to-consumer type disintermediation.

Figure 2.5 Emerging Value Net



Source: World Tourism Organisation, 2001

The tourism industry in the Caribbean, and the Destination management organisations in particular, can still be characterised by the traditional value chain, illustrated in Figure 2.4 above. The range of opportunities, as well as the threats, however, arising out of this emerging value net (Figure 2.5 above) has increased significantly.

The capacity of Caribbean DMO's to exploit the emerging opportunities and counter the many threats lie with the potential for organisational change and the ability to leverage the new technology to capitalise on internal strengths and overcome existing weaknesses. The challenge for DMO's is to develop the ICT systems (Destination Management Systems) that will enable them to operate complex business relationships with consumers, product suppliers and market intermediaries in the most efficient and effective way (Carter, 2001).

2.6.2 Destination Management Systems

A destination management system (DMS) is defined as the information and communications technology (ICT) infrastructure used by a Destination Management Organisation for the collection, storage, manipulation and distribution of information in all its forms, and for the transaction of reservations and other commercial activities (WTO, 1999).

There has been a widespread recognition of the importance of the Web to the operations of DMO's worldwide. From the initial stages of the commercial use of the Web, there has been recognition of its importance for DMO's. Pollock (1997) identified some 'compelling reasons' for tourist destinations to include an Internet presence in their marketing mix. These include: their enormous growth and reach; relatively cost effectiveness; its ability to disseminate comprehensive, but customised messages; market research and dialogue; commercial transaction and bookability; enhanced profile and public relations opportunities and competition and the need for collaboration.

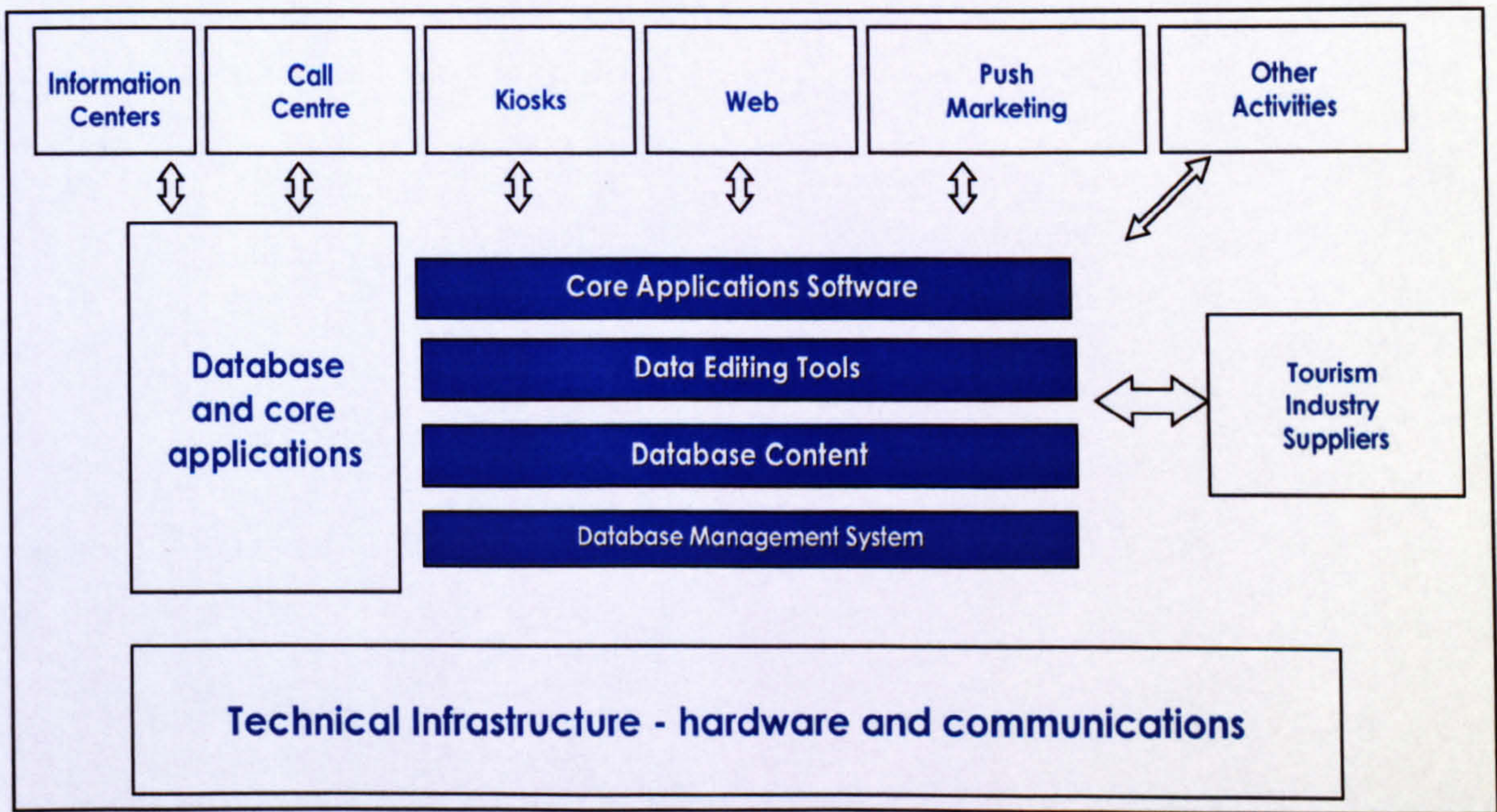
In contrast to the commercial sector, however, DMO's have been slow to adopt IT in their operations. While there were some early adopters during the 1970's, it was generally not until the late 1980's, that computer systems were introduced and then put to more extensive use during the 1990's, as powerful computer applications and platforms became more widely available (Pollock, 1997).

Many DMO's, particularly those in developing countries, tend to have a strong focus on dealing with end consumers, through a basic web presence (WTO, 1999). The reasons cited for this trend were the ability to: reach large numbers of consumers worldwide with information and product offers, at relatively low cost; provide information of greater depth and quality; enable consumers to book quickly and easily; and effect large scale savings on the production and distribution of print. The development of comprehensive DMS, however, has been very limited.

A Destination Management System entails the following:

- The infrastructure for the integrated organisation
- An increasingly comprehensive range of functions, spanning every aspect of DMO operations.

Figure 2.6 Model Destination Management System (DMS)



Source: World Tourism Organisation, 2001

3. Research Design/Methodology

3.1 Research Questions

The following research questions will be investigated in the context of a multiple-case study design (Yin, 1994). A lucid definition of the research questions in broad terms is critical in building or illustrating theory from case studies (Lee, 1989; Eisenhardt, 1989). There is a distinct possibility of becoming ‘overwhelmed by the volume of data’, when undertaking case study research. The specification of the research questions, therefore, enables the researcher to specify “the kind of organisation to be approached and, once there, the kind of data to be gathered” (Eisenhardt, 1989).

Research Question 1 (R.Q.1):

- (a) What is the Internet Adoption pattern in the Tourism Industry in the Eastern Caribbean?
- (b) What is the level of advancement, with respect to the functional objectives and technological development, of the NTO Web Sites in the Eastern Caribbean? (Angehrn, 1997) and (Powell, 1998)

Research Question 2 (R.Q.2):

To what extent are Eastern Caribbean NTO web-based systems being developed within a strategic framework? (that is, planned and implemented within a broader strategic framework)

Research Question 3 (R.Q.3):

How are existing business processes affected by implementation of web-based systems? (Does the exploitation of the ICDT virtual spaces (Angehrn, 1997) impact upon levels of organisational change (Venkatraman, 1994).

Research Question 4 (R.Q. 4):

What particular local characteristics affect the implementation of web-based systems? (To what extent do the various elements of the conception-reality gap - ITPOSMO model (Heeks and Bhatnagar, 1999) impact upon the outcome of web-based implementation projects?).

Research Question 5 (R.Q. 5):

What are the key outcomes of the Web Sites of the Eastern Caribbean NTO's? (Levels of success: usage patterns and user satisfaction and visitor arrivals).

3.2 Propositions/Hypotheses

- Hypothesis: 1. (a) Internet Adoption is widely diffused in the tourism industry in the Eastern Caribbean.
1. (b) Web Sites are 'simple' and 'static' (focusing on Information and Promotion) as opposed to 'complex', dynamic, 'web-based software applications', utilized for Transaction and processing type activities (Powell, 1998; Angehrn, 1997; Burgess, 1998, 2000).
- Hypothesis: 2. Web-based systems are being developed and implemented in an ad hoc manner and are not developed within a broader strategic context.
- Hypothesis: 3. IT-enabled process change is at the lower levels of localised exploitation and internal integration.

Hypothesis: 4. Significant Gaps exist with respect to the 'process', 'integration' and 'Management' dimensions of the 'conception reality' Gap model, which adversely impact upon the implementation of web-based systems.

Hypothesis: 5. Web sites are used for vacation planning and a positive correlation exists between web site usage and visitor arrivals.

3.3 Philosophical Perspectives in Information Systems Research

3.3.1 Research Design

Singleton and Straits (1999) submit that upon selection of a research problem, the researcher is faced with several 'critical decisions' in the formulating of the problem in researchable terms. This researcher was certainly faced with these critical and, indeed, intractable, decisions. Namely, what entities are to be studied; what aspects or characteristics of these entities are of interest and what kinds of relationships among the characteristics are anticipated. These decisions fall into the purview of the research design stage (Singleton and Straits, 1999).

In a similar vein, Hakim (1992:24) commenting metaphorically on the process of formulating a research design states:

Before any building of consequence is built there is an initial design stage. Architects are invited to present their ideas, sometimes on a competitive basis, on the shape, style and character of the building while taking account of its functions, purpose, location and so forth.

More directly, a research design can be considered as the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Hakim, 2000; Selltiz et al. 1976, in Gable, 1994). It is a blueprint for the collection, measurement and analysis of data, the plan and structure of

investigations so conceived as to obtain answers to research questions (Selltiz et al. 1976 and Phillips, 1971, cited in Cooper and Emory, 1995).

Cooper and Emory (1995), offer quite a lucid and functional definition of a research design:

- a plan for selecting the sources and types of information to answer the research questions
- a framework for specifying the relationships among the study’s variables and
- a blueprint that outlines each procedure from the hypotheses to the analysis of data.

Research designs can be differentiated along a variety of dimensions. One such useful, albeit not necessarily definitive classification, is presented in the Table 3.1 below. Indeed, Yin (1994) argues that case studies are ‘far from being only an exploratory strategy’.

Table 3.1: Dimensions of Research Designs

Exploratory	vs.	Explanatory
Case Study	vs.	Statistical
Field	vs.	Laboratory & Simulation
Cross-sectional	vs.	Longitudinal
Observational	vs.	Survey
Experimental	vs.	Ex Post Facto
Descriptive	vs.	Causal

Source: Gable (1994)

The selection of a suitable research strategy should, undoubtedly, be dictated by clear and convincing considerations. Yin (1994), suggests that the three conditions which should factor into the selection of an appropriate design are: (1) the type of research question posed, (2) the extent of control an investigator has over actual behavioural events, and (3) the degree of focus on contemporary events. A summary of the conditions under which the various strategies are best suited are outlined in Table 3.2 below:

Table 3.2 Conditions for Different Research Strategies

Strategy	Form of Research Question	Requires Control over Behavioural Events?	Focuses on Contemporary Events?
Experiment	How, why	Yes	Yes
Survey	Who, what, where, How many, How much	No	Yes
Archival Analysis	Who, what, where, How many, How much	No	Yes/no
History	How, why	No	No
Case Study	How, why	No	Yes

Source: Yin (1994)

Orlikowski and Baroudi (1991), claim that three methods or designs have tended to dominate IS research: survey, laboratory experimentation and case study. They suggest that, given the potential benefits of the research methods, it is desirable to leverage the strengths of the respective strategies, through the combination of approaches and methods within a single research design.

The research design for this study utilises the case study strategy, with a combination of qualitative and quantitative methods of research. This is done so as to provide a wider picture of the unit under study than would have been achieved otherwise (Bonoma, 1985). Using multiple methods – research perspectives – also increases the “robustness of results” because findings can be strengthened through triangulation – the cross validation achieved when different kinds and sources of data converge and are found congruent (Kaplan and Duchon, 1988; Benbasat et al., 1987; Yin, 1984).

3.3.2 The Scientific Method

Smith (1990) raises a most pertinent question: “...why should the research of management academics have intellectual authority and command the respect and attention of practitioners?” He goes on to suggest that the answer lies in the role of management academics as ‘social scientists’ and that management research is therefore *scientific* (Smith

1990). Consequently, it can be concluded that the use of the scientific method is, therefore, what gives legitimacy to information management research.

Cooper and Emory (1995) submit that the essential tenets of science are: (1) direct observation of phenomena, (2) clearly defined variables, methods and procedures, (3) empirically testable hypotheses, (4) the ability to rule out rival hypotheses, (5) the statistical rather than linguistic justification of conclusions, and (6) the self-correcting process (Cooper and Emory, 1995).

They explain that scientific enquiry is grounded in the inference process. The process used for the development and testing of various propositions largely through the 'double movement of reflective thinking' (Dewey, 1910). This refers, essentially, to the combined use of the inductive and deductive processes, observation and hypothesis testing in research, in a sequential manner.

Singleton and Straits (1999) conclude that what unites science are its objectives, presuppositions, general methodology and logic. It is a process aimed at the production of knowledge, guided by three canons of inquiry: empiricism, objectivity and control.

The natural science model of social science research involves three interrelated sets of logic: the rules of formal logic, the rules of experimental and quasi-experimental design and the rules of hypothetico-deductive logic (Lee, 1999). There have been significant challenges, however, to the applicability of the 'natural science model' to the investigation of social phenomena (Lee, 1989, 1991; Sanday, 1979; Boland, 1985). The following section discusses the dominant perspectives in information systems research - positivist and interpretative.

3.3.3 Research Traditions in Information Systems

Information systems research has been characterised by a methodology of formulating hypotheses that are tested through controlled experiment or statistical analysis (Kaplan and Duchon, 1988; Lee, 1989; Smith, 1990). The dominant approach to information technology studies has been based on a positivistic, experimental orientation. Information systems research can be classified as positivist if there is evidence of formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about the phenomenon from a representative sample to a population (Orlikowski and Baroudi, 1991).

The term ‘positivism’ was coined by Auguste Comte⁹ (Evans-Pritchard, 1970; Kolakowski, 1972). Comte claimed that an understanding of the various fields of study in the ‘natural sciences’ was highly relevant to disciplines in the social sciences because the essential methodology of all the sciences is the same. Consequently, the correct utilisation of procedures of observation and analysis in the social sciences could best be achieved, it is argued, by the study and application of the principles and methods of those sciences which had preceded them¹⁰ (Evans-Pritchard, 1970).

Not surprisingly, therefore, positivism is also known as the ‘natural science model of social science research’, as it explicitly seeks to implement, in social science, the research methods of physics, biology and other natural sciences (Ngwenyama and Lee, 1997).

Epistemologically, the positivist research tradition holds that all knowledge can be expressed in statements of laws and facts that are positively corroborated by measurement. In terms of information systems research, for example, this orientation considers that knowledge about information technology is objective and can be obtained by an empirical-analytic approach (Lyytinen, 1987).

⁹ Comte, A (1875) *The Positive Philosophy of Auguste Comte*; translated condensed by H.Martineau, 2nd Edition, Truber.

While the positivist perspective has been the dominant paradigm in information system research, there have been significant challenges with respect to its applicability for research in social sciences as a whole, including the field of information systems. Hughes (1980) in Smith (1990) poses a fundamental question: “is a science of social life impossible?”

The quandary stems from the fact that the objects and phenomena under investigation in the realm of social science (for example information systems implementation, strategy formulation, change management), are fundamentally different to the units of study in the natural sciences (for example atoms, molecules, cells).

As Schutz (1973) in Lee (1991) observes, objects of natural science inquiry do not ‘mean anything to each other’, whereas people, who are integral to the subject matter of the social sciences, ‘*do* mean something to each other’. Consequently, the social scientist must collect data which, not only describes the purely objective, observable aspects of human behaviour, but also the ‘subjective meaning this behaviour has for the human subjects themselves’ (Lee, 1991). Clearly, the latter sphere of work is fundamentally different to what has to be dealt with in the natural sciences and ‘requires procedures that have no counterparts among those of the natural sciences’ (Lee, 1999).

Smith (1990) presents a useful perspective on the question of objectivity in regard to the direct observation of social science phenomena. He submits that just as there is a requirement to ‘stand back a bit’, there is an equal and compelling requirement in social science research, not to stand so far “that the findings are distorted by distance as well as by the act of interpretation”.

As a result, it has been suggested that the interpretative perspective in social science research has emerged as a logical and justifiably important strand in information systems research (Sanday, 1979; Boland, 1985; Walsham, 1995). Information systems research can

¹⁰ Referring to the fact that there has been a much longer tradition of the scientific examination of natural science phenomena, as opposed to social phenomena, Evans-Pritchard (1970) in the publication: “The Sociology of Comte: An Appreciation”

be classified as interpretive if it is assumed that our knowledge of reality is gained only through social constructions such as language, tools and other artefacts.

Kaplan and Maxwell (1994) point out that interpretative research does not predefine dependant and independent variables, but focuses on the 'complexity of human sense making' as the situation emerges. Interpretive methods are, therefore, "aimed at producing an understanding of the context of the information system and the process whereby the information system influences and is influenced by the context" (Walsham, 1993).

This study takes on a form of the positivist approach as hypotheses are formulated for empirical testing, using quantifiable measures of variables, for the purpose of drawing inferences about the phenomena under investigation. However, one is mindful of the fact that the 'matter' that is the subject of this study, 'do mean something to each other' and have interpretations and subjective meanings about the various constructs and concepts being examined. Consequently, this work does reflect some elements of the interpretive philosophy as well.

The following section moves from the broad philosophical perspectives, to a more practical, but closely related issue in information systems research. The discussion focuses on the qualitative and quantitative approaches in information systems research and, specifically, pertinent methodologies to this research undertaking, namely: case study and survey research strategies.

3.3.4 Quantitative and Qualitative Approaches in Information Systems Research

There is an extensive body of literature on the relative merits of qualitative and quantitative research methods in the field on information systems (McFarlan, 1984; Benbasat, 1984, Benbasat et al., 1987; Kaplan and Duchon, 1988; Lee, 1991). While the discussion is often conducted with reference to the broader philosophical perspectives discussed in the

previous section, it will be shown that it is useful to establish a level of demarcation in the treatment of these two distinct, but yet inextricably interwoven levels of analysis¹¹.

Henwood and Pidgeon (1992) note that the use of either qualitative or quantitative methods tends to be justified on pragmatic, rather than epistemological grounds. Indeed, it has been suggested that the distinction between qualitative and quantitative research is, essentially, a technical issue, whereby the selection between them is a factor of their suitability in answering the particular research questions (Bryman, 1988).

In a similar vein, Smith (1990:130) contends that:

An understanding of the epistemological issues surrounding social science research, point to the requirement to use an appropriate method for the research problem; in other words, 'horses for courses'.

Quantitative techniques typically focus on the measuring of constructs that can be counted, "using predetermined categories that can be treated as interval or ordinal data and subjected to statistical analysis" (Patton, 1997). In this approach, data are usually gathered through surveys, questionnaires and tests.

Qualitative research focuses on people's experiences and the meanings they place on the events, processes and structures of their normal social setting. Prolonged or intense contact with people and groups in their 'everyday situations', may often be required. This provides an holistic view, through the participants or respondents own words and perceptions, of how they understand, account for and act within these situations (Miles and Huberman, 1994).

The data collected may be in the form of spoken or written words, unconstrained by predetermined standardized categories. Qualitative data, therefore, "focuses on naturally occurring, ordinary events in natural settings, so that we have a strong handle on what 'real life' is like" (Miles and Huberman, 1994). They also note that "...qualitative data are useful

¹¹ That is, the debate on the positivist and interpretative perspectives and the qualitative and quantitative approaches.

when one needs to supplement, validate, explain, illuminate, or reinterpret quantitative data gathered from the same setting.”

The issues relating to qualitative and quantitative approaches will now be discussed with specific reference to the case study and survey strategies in information systems research.

3.3.5 Case Study Research

The case study is a research strategy which focuses on understanding the dynamics present within single settings (Eisenhardt, 1989). Yin (1994) suggests that case studies are appropriate where the objective is to study contemporary events, and where it is not necessary to control behavioural events or variables. While the case approach refers to a group of methods which tend to emphasise the use of qualitative data, case studies typically combine data collection methods such as archives, interviews, questionnaires, and observations (Eisenhardt, 1989; Yin, 1994; Jick, 1979; Lee, 1989; Gable, 1994).

Case studies can involve either single or multiple cases and multiple levels of analysis - an embedded design (Yin, 1989). Multiple case designs are desirable when the intent of the research is description, theory building, or theory testing and allow for cross-case analysis, and the extension of theory. (Yin,1994; Benbasat et al.,1987)

Given the applicability of this approach, for a variety of purposes, including; description, exploration, prescription, theory building, or theory testing (Benbasat, et al., 1987), it has seen extensive application in information systems research (Munford et al., 1985; Benbasat et al., 1987; Lee, 1989; Smith, 1990). Where used for theory testing, the purpose can be confirmatory or dis-confirmatory (Markus, 1989).

Lee (1989) provides a quite useful analysis of the problems, from the natural science model, that can be identified with respect to the use of the case study method in information systems research. These are identified as: (1) making controlled observations, (2) making controlled deductions, (3) allowing for replicability and (4) allowing for

generalisability. He then proceeds, however, to suggest specific methods which can adequately address these concerns and concludes that any distinctions between quantitative and qualitative approaches are “artificial and inconsequential”. Neither type of research, he argues, is inherently more rigorous than the other.

Benbasat et al. (1987), have identified three distinct strengths of case study research in information systems:

- (1) the researcher can study information systems in a natural setting, learn about the state of the art, and generate theories from practice;
- (2) the method allows the researcher to understand the nature and complexity of the process taking place; and
- (3) valuable insights can be gained into new topics emerging in the rapidly changing information systems field.

Limitations:

It has been argued, however, that the selection of various research designs entails an inherent trade-off between: (1) generalisability to the population (2) precision in measurement and control and (3) realism of context¹² (Scandura and Williams, 2000).

With reference to the case study approach, and field studies in general, it is suggested that while this strategy maximises realism of context, given the field setting, it is low on precision of measurement and control of behavioural variables and on generalisability to the population.

Kerlinger (in Gable, 1994) identifies three major weaknesses of qualitative research, which are also applicable to the case study approach: (1) the inability to manipulate independent variables (2) the risk of improper interpretation; and (3) the lack of power to randomise.

¹² Drawing upon the work of Cook and Campbell (1976) with regard to the four types of validity: internal validity (causality); external validity (generalisability); construct validity (how well the measures employed fit the theories for which a test is designed) and statistical conclusion validity (ability to draw conclusions on the basis of statistical evidence of covariation).

Four corresponding problems with case study research are cited by Lee (1989): a lack of: (1) controllability, (2) deductibility, (3) repeatability and (4) generalisability.

3.3.6 The Survey Method

The survey approach refers to a group of methods (mail questionnaires, telephone interviews, and published statistics) which emphasises quantitative analysis. It usually seeks to discover relationships that are common across organisations or populations and hence to provide generalizable statements about the object of study (Gable, 1994). A primary purpose of surveys is to describe the frequency of certain characteristics among groups or populations (Singleton and Straits, 1999).

The sample survey stresses the representative sampling of the population units studied. The intention is to actively neutralise context by soliciting responses that are unrelated to the context within which they are elicited, resulting in a trade-off which is high on external validity, but low on realism of context and precision of measurement (Scandura and Williams, 2000). Attewell and Rule (1991:313) state that, “traditional survey work is strong in...areas where field methods are weak.” Surveys, they suggest, can accurately document the norm, identify extreme outcomes and delineate associations between variables in a sample.

Limitations

The survey approach, however, provides only a “snap-shot of the situation at a certain time”, yielding little information on the underlying meaning of the data (Gable, 1994). Kaplan and Duchon (1988:575) argue that “...the stripping of context (for example the reduced ‘representability’ of model complexity through the use of a closed survey instrument) buys objectivity and testability at the cost of a deeper understanding of what actually is occurring”. Survey research, they contend, is inflexible to discoveries, especially arising out of the data collection stage.

Ackoff (in Gable, 1994), expresses a rather strong view on this issue. He cautions:

The strict adherence to the quantitative methods and highly simplified experimentation and the complete neglect of qualitative issues, context and situational complexity, smacks of 'mathematical masturbation' without substantial knowledge of organisational situations, or their management.

3.3.7 Application of Research Methods and Strategies

Case study research can involve qualitative data only, quantitative only, or both (Yin, 1994). Moreover the combination of data types can be 'highly synergistic' (Eisenhardt, 1989). Attewell and Rule (1991) highlight the 'complementarity' between survey and fieldwork approaches to studying information technology, arguing that each is 'incomplete without the other'. It has been suggested that it is always best to utilize several methods of data collection to address adequately the impacts of information technology as 'no one approach to information systems research can provide the richness that information systems as a discipline, needs for further advancement' (Kaplan and Duchon, 1988).

Consequently, to the extent that it is feasible, it can be argued that information technology research should address common questions and hypotheses with multiple modes of data and multiple methods (Danzinger and Kraemer, 1991). This form of research strategy is usually described as 'convergent methodology', 'multi-method/multi-trait', 'convergent validation' or 'triangulation' (Gable, 1994; Kaplan and Duchon, 1988; Jick 1979).

Eisenhardt (1989) contends that the triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses. Using multiple methods - research perspectives - also increases the robustness of results because findings can be strengthened through the triangulation process - that is the cross validation achieved when different kinds and sources of data converge and are found congruent or when explanation is developed to account for divergence (Kaplan and Duchon, 1988).

This study employed both quantitative and qualitative methods of data collection. Within

the context of the multiple case study design, a *survey* was administered (Appendix 4) in five (5) of the National Tourist Offices (NTO's) in the Eastern Caribbean¹³ and the Caribbean Tourism Organisation (CTO). Attempts to secure the participation of the other five islands in the region proved unsuccessful. A total of forty questionnaires were distributed to the five NTO's which had agreed to participate in the study. Thirty-two completed questionnaires were received, giving a response rate of eighty percent (80%). *Semi-structured interviews* were also conducted with a wide range of persons in the five NTO's and the CTO (Appendices 2 and 3).

The instruments used for the semi-structured interview and the survey (Appendices 2 and 4 respectively) were pilot tested utilizing a combination of industry practitioners and academics. A total of *eight* persons: *two* IT managers from NTO's outside the Eastern Caribbean (Jamaica and Trinidad & Tobago); *three* academics in the field of information technology and tourism and *three* IT consultants specializing in computer solutions and change management for public sector organisations in the tourism industry, comprised the 'panel' used for pilot testing the survey instrument and the interview protocol.

Critical feedback was received from these persons, much of which was incorporated into the content and design of the instruments. This significantly improved the precision and clarity of items used and contributed to the construct validity and reliability or internal consistency in the measurement of the variables and subjects under consideration.

Unstructured interviews were also done with a wide range of individuals in the tourism sector in the Caribbean region and in London (Appendix 3). The findings of the survey data analysis and the interview data were used to assess the role of several contextual and organisational contingency variables in the implementation of web-based systems. The triangulation process and the extent of convergence and explanations for the areas of divergence are discussed in Section 6.3 below.

¹³ St. Lucia, Grenada, Barbados, St. Vincent and the Grenadines and the British Virgin Islands.

Secondary data analysis was conducted on the four annual Visitor Exit Surveys done in Barbados from 1999 to 2002. Analysis was also done on visitor arrival data and web usage statistics for St. Lucia and Grenada for the period January to November, 2002 and April 2001 to December 2002 respectively. The findings in this regard are discussed in Sections 5.5.2 and 5.5.3 respectively. *Content analysis* was also done on all of the web sites of the Eastern Caribbean NTO's and corroborated with the survey and interview data, with respect to Internet adoption and Internet maturity - the use of 'virtual market spaces' - presented in Sections 5.2 and 5.4 respectively.

Within-case analysis involves 'detailed case study write-ups for each site' and though they 'are often simply pure descriptions, they are central to the generation of insight (Eisenhardt, 1989; Gersick, 1991). With-in case analysis for this study is presented in Sections 4.3 to 4.6 and Section 6.4 below.

3.4 Unit of Analysis

In social research, the entities, objects, or events under study are referred to as units of analysis (Singleton and Strait, 1999). In most surveys, for example, the unit of analysis is often, though not exclusively, individuals. Other levels of analysis commonly found in survey research are: households, roles and relationships, organisations, cities/regions and countries (Eisenhardt, 1989). The unit is simply what or who is to be described or analysed.

With respect to the case study approach, the unit of analysis can also be an organisation, event or entity. Case studies have also been done about decisions, the implementation process and organisational change (Yin, 1994).

With respect to this study, the primary focus is on the factors which impact upon the information systems (IS) *implementation process* in public sector *organisations* – National Tourist Offices (NTO's) in the tourism sector of the small island developing states in the Eastern Caribbean. The design for this study, outlined in Table 3.3 below, can therefore be described as a multiple embedded case, with the primary unit of analysis being the implementation process.

Table: 3.3: Units of Analysis

Units of Analysis	Description	Level of Focus
Information Systems Implementation Process	Implementation of Web-based Systems in the Tourism Industry	Primary
Organisation	National Public Sector/Quasi-Governmental Tourism Agencies	Secondary
Industry	Tourism Sector in the Eastern Caribbean	Secondary

This approach allows for the extensive analysis of relevant sub-units, as well as the holistic aspects of the case, thereby enhancing insights into the phenomena under investigation (Yin, 1994).

3.5 Sampling Framework and Data Collection

In deciding the most suitable sampling framework for this study, the differentiation between replication logic, as opposed to sampling logic, was critical. Given that the case study method seeks to generalize to theoretical propositions, and not necessarily to entire populations or universes, the procedure for selection of cases (or samples) is distinctly different to the selection of samples in survey based research (Yin, 1994).

Yin (1994) contends that replication logic is comparable to the procedure used in multiple experiments. Each case is selected on the basis that it either: *predicts similar results* or *produces contrasting outcomes*, but for predictable reasons, *literal replication* and *theoretical replication*, respectively.

The process of building theory from case study research, requires a similar type of distinction to be made between: ‘theoretical sampling’, versus ‘random sampling’. This is because the focus is on the selection of theoretically useful cases that replicate or extend theory by addressing key conceptual frameworks (Eisenhardt, 1989).

Indeed, while random selection is one of the ‘hallmarks’ of survey based research (where the objective is to obtain statistical evidence on the distribution of variables within a population), it is ‘neither necessary, nor even preferable’ with respect to case study research (Eisenhardt, 1989; Yin, 1994). For example, cases can be deliberately chosen from either end of a spectrum, ‘successful’ and ‘unsuccessful’, in order to build theories of success and failure (Eisenhardt, 1989; Gable, 1994). The cases selected for this study were the:

- St. Lucia Tourist Board (SLTB);
- Barbados Tourism Authority (BTA);
- Grenada Board of Tourism (GBT); and the
- Caribbean Tourism Organisation (CTO)

Apart from the three islands represented by the case studies (St. Lucia, Barbados and Grenada), data was also collected from two other islands in the Eastern Caribbean: St. Vincent & the Grenadines (SVG) and the British Virgin Islands (BVI), primarily through the use of semi-structured interviews and questionnaires. Interviews and secondary data analyses were also carried out at the Ministries of Tourism in St. Lucia, Barbados, Grenada and St. Vincent and the Grenadines. In the case of St. Vincent and the Grenadines, the Ministry of Tourism functions as the National Tourist Organisation.

Data was collected from a wide range of respondents within these organisations, over a period of about eighteen (18) months: from July 2001 to December 2002. Interviews were also conducted with representatives of the various private sector institutions; the Hotel and Tourism Associations in St. Lucia and Grenada; personnel from the accommodation sector (large and small hotels). During the course of the field work, electronic commerce seminars were conducted for the tourism sector, facilitated by the researcher, in the islands of St. Lucia, Grenada and Dominica. Feedback on several key aspects of the work was received from the private and public sector personnel present at these forums.

In addition to extensive semi-structured and unstructured interviews conducted, with a wide range of respondents across the case study sites, questionnaires were sent via electronic

mail to the Information Systems Managers and other personnel who were involved in the Internet activities in the National Tourist Offices and the Caribbean Tourism Organisation. More extensive interviews were done at the Caribbean Tourism Conference in October, 2002 with the Directors of Tourism, Information Systems Managers and Marketing Managers of various National Tourist Offices. Interviews and document analyses were also done during site visits at the Caribbean Tourism Organisation, the St. Lucia Tourist Board, the Grenada Board of Tourism and the Barbados Tourism Authority.

4. Overview of Case Studies

4.1. Introduction

The theoretical models and research streams underpinning this work centre on the implementation of information and communications technologies/information systems in an organisational setting, in particular web-based systems and the Internet. The related aspects of process innovation and information technology (IT)-enabled change are also examined empirically, at various levels. Firstly, the focus is on the Small Island Developing States (SIDS), within the geographic region: the (English speaking) Eastern Caribbean. At the industry level, the tourism sector is investigated, primarily from the perspective of the relevant public sector organisations - Destination Management Organisations (DMO's) and National Tourist Offices (NTO's).

As outlined in the previous chapter, a wide range of data collection techniques were employed in this multiple, embedded case study design: semi-structured and unstructured interviews, questionnaires, secondary data analysis (web site analysis and internal documentation), and expert panel interviews and analysis.

This chapter presents an overview of the region, highlighting the key characteristics at the regional, sub-regional, national and organisational levels – that is, the Caribbean, Eastern Caribbean, island and national tourist office levels, respectively. Further details are provided in Appendix 1. The regional and sub-regional issues are presented in Section 4.2.1, followed by an overview of the Tourism Industry in the Caribbean, in Section 4.2.2. Section 4.3 provides an outline of the key national and organisational characteristics. The role of the public sector agencies in the tourism industry is examined, and in particular the operations and functions of destination managements systems by Destination Management Organisations/National Tourist Offices.

4.2 Regional Context

4.2.1 Eastern Caribbean States

This study focused on the following English speaking nations of the Eastern Caribbean: Anguilla, Antigua & Barbuda*, Barbados, British Virgin Islands*, Dominica, Grenada, Montserrat, St. Kitts & Nevis*, St. Lucia and St. Vincent & the Grenadines*.

The islands in the Eastern Caribbean face special development challenges because of their small size and vulnerability to natural disasters and other external events. With a total population of less than eight hundred thousand (800,000), institutional capacity is limited and per capita costs of basic social and infrastructure services are very high. Hurricanes and floods frequently destroy infrastructure and disrupt key economic activities, such as agriculture and tourism.

Moreover, most of the islands have historically promoted mono-crop agriculture, relying on preferential trade arrangements, which now face certain, albeit phased, dismantling as a result of World Trade Organization rulings. The resulting volatility in national income aggravates income poverty for one third of the sub-region's households. Despite these challenges, these countries enjoy relatively strong social and economic indicators (Table 4.1 below).

All of these ten (10) islands share very similar historical and geo-political characteristics, and are also strikingly comparable with respect to many socio-economic features and governance and institutional frameworks (See Appendix 1).

* Dual or Multiple Island States

Table 4.1: Profile of the Eastern Caribbean States

Country	Status	Area Miles ² (km ²)	Popula tion (‘000s)	GDP US\$M	GNI Per Capita Income (US\$)	Fixed Lines (per 1,000 people)	Visitor Expenditure per Capita (US\$)	Tourist Arrivals per Thousand Population
Anguilla	British Overseas Territory	10 (40)	11	86	6,500	630	4,390	3,236
Antigua & Barbuda	Independent (from 1981)	170 (440)	70	666	9,070.	786	4,093	3,296
Barbados	Independent (from 1966)	170 (430)	268	2,068	15,900	850	2,490	2,036
British Virgin Islands	British Overseas Territory	60 (150)	13	643	17,890	820	15,070	14,127
Dominica	Independent (from 1978)	290 (750)	78	261	3,060	310	625	914
Grenada	Independent (from 1974)	130 (340)	100	400	3,720	378	661	1,267
Montserrat	British Overseas Territory	40 (100)	5	43	3,900	400	2,243	1,950
St. Kitts & Nevis	Independent (from 1983)	(360)	43	343	6,880	600	1,781	1,809
St. Lucia	Independent (from 1979)	240 (620)	158	689	3,970	621	2,024	1,730
St. Vincent & the Grenadines	Independent (from 1979)	(390)	116	338	2,690	240	704	651

Sources: The World Bank, OECS Secretariat, International Monetary Fund (IMF), Caribbean Tourism Organisation (CTO)

In the 1990's, annual economic growth averaged about three percent (3.2%), a decrease from the five and a half percent (5.5%) enjoyed in the 1980's. The strong growth in the 1980's was mainly due to a favorable external environment, when preferential market access and strong prices resulted in a twofold increase in banana, rum and other export earnings over the previous decade. Increases in foreign investment fueled an expansion in

the tourism sector; and large flows of concessional aid (peaking at nine percent (9%) of GDP) which contributed significantly to the financing of investments in infrastructure.

The external environment worsened in the 1990's as concessional aid flows declined rapidly to about four percent (4%) of Gross Domestic Product (GDP) and preferential access to external markets began to erode. The WTO ruling against the preferential treatment of Caribbean bananas accelerated this trend, and there was a marked increase in the incidence of catastrophic weather phenomena. More recently, the combined slowdown in the global economy and increasing competition from other warm weather destinations internationally, dampened growth in tourism receipts. The events of September 11, 2001 worsened the situation.

The Eastern Caribbean islands have continued to shift from agriculture to services, mainly through tourism, but also offshore financial services and, more recently, telecom-related services – primarily call centers and data-entry operations. In light of the many challenges of globalisation and trade liberalisation, the pivotal position and potential of the tourism sector in the context of the Eastern Caribbean economies is aptly illustrated by the following:

Tourism is the only OECS industry that can claim to be internationally competitive, as it strives without the protection and preferential treatment that have characterised the development of agriculture and manufacturing in the sub-region. The competitive advantage of the OECS countries in Tourism is due largely to their natural attributes...natural, historical and cultural resources; relatively pristine environment; and proximity to the major North American market (OECS, 2002: 21).

4.2.2 The Caribbean Tourism Industry

This Section provides an overview of the tourism industry in the Caribbean and addresses the economic significance of tourism to the region. The regional mechanisms and institutional frameworks, with respect to the management of the tourism industry are also discussed.

In the Caribbean, national tourism organizations (NTO's), airlines and travel agents constitute the major components of the travel distribution network. While NTO's are responsible for the generic marketing of the tourism product, airlines and travel agents often drive the business of intra-regional travel through their own destination packages which usually include air transport and accommodation.

The Caribbean tour operator focuses primarily on the provision of local representation for foreign tour operators, some ground tour operations inclusive of air and sea port transfers, island tours and inter-island excursions. However, some travel agencies function to a small extent as tour operators primarily developing extra-regional tours that include air, accommodation, air transfers and sightseeing.

Regional airlines such as BWIA, LIAT and Air Jamaica function as vertically integrated tour operators offering vacation packages that are geared to Caribbean residents. Generally, these packages make use of scheduled flights and include return air travel, hotel accommodation, and of hotel facilities, hotel taxes and service charges. Intra-regional tours often focus on sports although some are also organised to coincide with major cultural events and/or long weekends in the various islands. These tours often rely on charter aircraft and are usually planned with a view to ensuring that each leg of the route is fully subscribed.

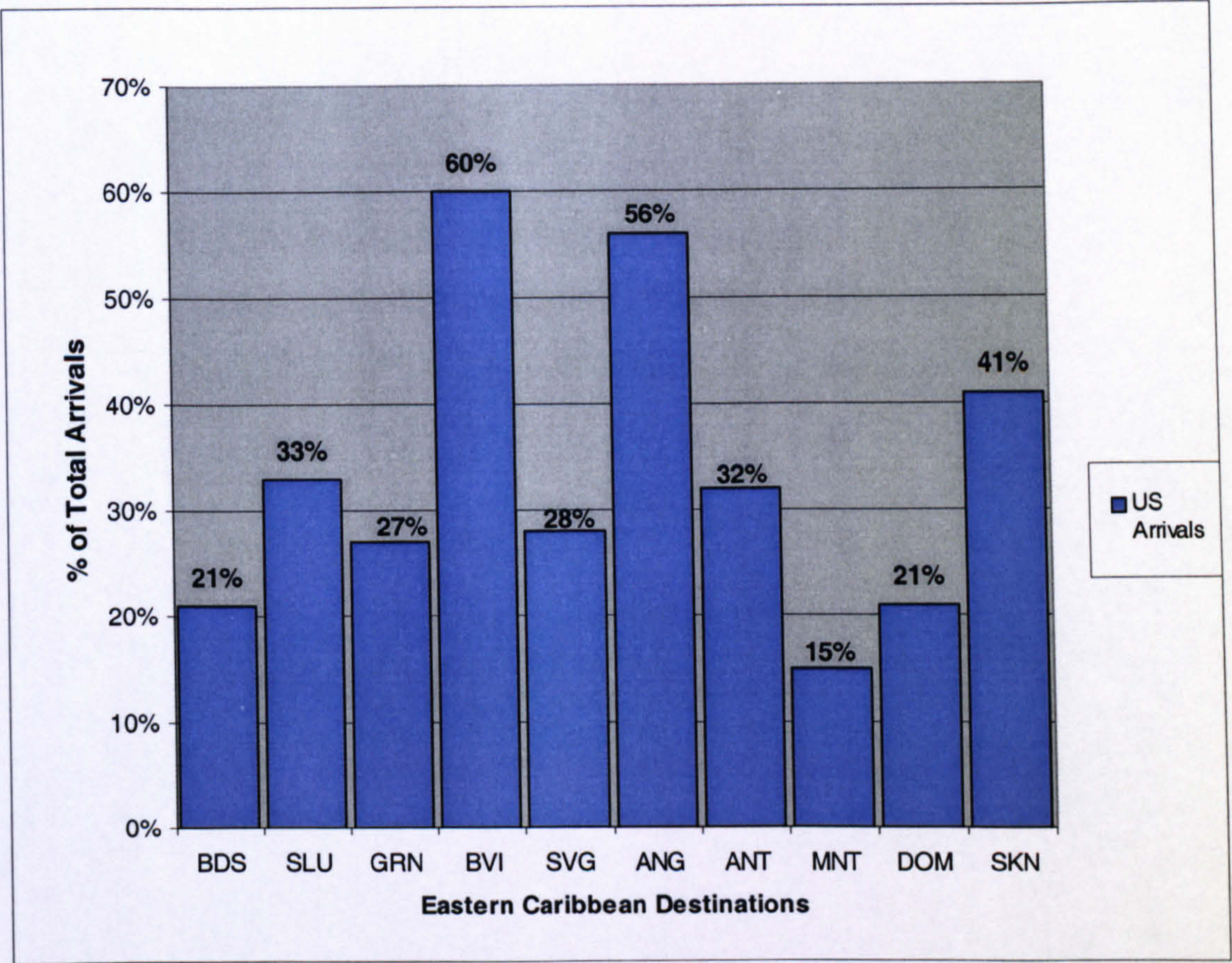
Regionally owned airlines provide both scheduled and charter services within the region and to major international destinations. Virtually every Caribbean country and territory is served by at least a nominal schedule of intra-regional flights. Some islands are also hubs for intra-regional and international air transport. Puerto Rico and Jamaica facilitate travel to

the smaller islands of the northern Caribbean, while Barbados, and increasingly St. Lucia, facilitate travel amongst the OECS, French West Indies and the southern Caribbean. Over twenty airlines provide scheduled air service through the Caribbean. Several of the larger airlines, such as American Airlines, American Eagle, British Airways, Virgin Atlantic, BWIA and Air Jamaica, provide service to all of the larger destinations throughout the region. In contrast, many of the smaller airlines, such as LIAT, Caribbean Star and Air Caribe, restrict their service to a few islands that are relatively close to each other.

The United States (US) remains the most important source of tourists to the Caribbean region, September, 11, 2001, notwithstanding. The US share of the overall tourist arrivals has been declining slightly, however, from fifty-two percent (52%) in 1996, to forty-nine percent (49%) in 2000. The level of dependence on the US and other major source markets varies considerably among Caribbean destinations. The dependence on the US market for example, varies from above seventy-five percent (75%) of total tourist arrivals in the case of the Bahamas, Puerto Rico and the US Virgin Islands, to less than ten percent (10%) for Cuba, Martinique and Suriname.

Air access, airfare costs, geographic proximity and historical and cultural ties and political considerations are the primary factors which impact upon the relative importance of the US and other markets, to the various Caribbean destinations. In terms of the Eastern Caribbean, the dependence on the US market is also quite varied, from as high as sixty percent (60%) and fifty-six percent (56%) for the British Virgin Islands and Antigua and Barbuda, respectively, to fifteen percent (15%) for Montserrat. Visitor arrivals from the United States as a percentage of total arrivals to the Eastern Caribbean destinations is provided in Figure 4.1 below:

Figure: 4.1 Dependence on the United States Market



Source: Caribbean Tourism Organisation, 2002

The relative importance of Europe as a source market has continued to grow moderately. As a percentage share, European visitors increased from twenty-four (24%) percent in 1996, to twenty six percent (26%), in 2000. Arrivals from Canada and other Caribbean islands represents approximately six percent (6%) and seven percent (7%), respectively, of overall arrivals to the Caribbean.

Generally speaking, the picture has been one of gradual recovery from the post September 11, 2001 worldwide fall-off in tourist travel. The impact of this tragic event on the Caribbean tourism sector was exacerbated by the fact that it occurred during the traditional booking window for winter travel. The Caribbean Tourism Organisation (CTO) estimates that stopover arrivals to Caribbean destinations declined by two and a half percent (2.5%)

in 2002. The number of cruise passenger arrivals, on the other hand, increased by an estimated ten percent (10%).

Visitor arrival data for the Caribbean region reveals that 2002 began with an unusually weak winter season (January to April), with tourist arrivals ten percent (10%) below those for winter 2001. This was followed by steadily improving performances in the summer months (May-December) during which time tourist arrivals grew by three percent (3%) when compared to the previous year. For hoteliers, the September 11, 2001 period meant sharp discounting, higher insurance costs, fewer guests and, as a consequence, significantly diminished revenues. Average revenue per available room for the Caribbean (RevPAR) in 2002 was down four percent (4%) as compared to 2001 (Smith Travel Research, 2003).

Given the slow, but steady recovery track that was evident during the second half of 2002 for the Caribbean, it would be reasonable to expect that, under normal conditions, 2003 would see a resumption of real growth in tourist arrivals to the region. The war in Iraq and the continued heightened concern over terrorism, however, further undercut the stability which international tourism, especially long haul travel, needs in order to operate at its best. While advance bookings for travel to the Caribbean are higher for 2003 than in 2002, they are reportedly slower than initially projected. While the shortened booking window for travel since September 11, 2001 (down from over six to four weeks on average), leading industry personnel concur that future performance is now far more difficult to predict and it is clear that travel consumers are being extremely cautious.

4.3 Caribbean Tourism Organisation

The Caribbean Tourism Organization (CTO) was established in January 1989, as a result of the merger of the Caribbean Tourism Association (founded in 1951) and the Caribbean Tourism Research and Development Centre (founded in 1974). Its operations are funded primarily by the governments of thirty-four (34) countries in the region. The formula for the contribution of the member states, outlined in Table 4.2 below, is based on the level of stay over visitor arrivals and requires that the dollar values be increased by five percent (5%) per annum to allow for inflationary and other costs:

Table 4.2 CTO Dues Formula - 2002

Stay Over Visitors	Dues (US\$)	No. of Members in Dues Bracket
15,000 & under	5,800	2
15,001 to 50,000	19,200	1
50,000 to 100,000	31,900	6
100,001 to 200,000	51,100	5
200,001 to 400,000	76,600	7
400,001 to 600,000	102,100	3
600,001 & above	127,700	8

Source: Caribbean Tourism Organisation, 2002

Funding for CTO’s programmes comes primarily from membership dues of its government and private sector allied members. Trade shows, fund raising events, the sale of research publications, and conferences, the most prominent of these being the annual Caribbean Tourism Conference, also generate some income for the organisation. International development agencies also provide funding for specific CTO projects related to improving the Caribbean tourism product as well as for education, training and regional marketing.

The CTO Board consists of fifty percent (50%) of public sector members and fifty percent (50%) from the private sector, with representatives from most major sectors of the industry. The membership of the Caribbean Tourism Organization comprises diverse states in the region and includes French, English, Spanish and Dutch speaking territories of the

Caribbean. Membership of the Caribbean Tourism Organisation is broken into two main categories: Government Membership and Private Sector Membership.

Government Membership is open to any country accepted as being part of the Caribbean region that, in the opinion of the Government members of the Board of Directors is able and willing to exercise the rights and assume the obligations of membership. Private membership is extended to organizations serving the Caribbean region in the area of tourism, which in the opinion of the Board of Directors, will contribute to the positive development of Caribbean tourism and is able and willing to exercise the rights and assume the obligations of membership. These include Carrier Members, Allied Members, Chapter Members, Retail Travel Agencies and Affiliate Members.

The CTO operates from headquarters in Barbados, with a professional staff of eleven (11) and a support staff of a further twenty (20). Its principal marketing operations are located in New York, with other offices in London, United Kingdom and Toronto, Canada. The broad objective of the Caribbean Tourism Organization is to provide the services and information to and through its members, so as to facilitate the development of sustainable tourism for the economic and social benefit of the Caribbean. Some of the broad objectives are as follows:

- Providing an instrument for close collaboration in tourism among the various territories, countries and other interests concerned;
- Developing and promoting regional travel and tourism programs to and within the Caribbean;
- Carrying out advertising, promotions, publicity, and information services calculated to focus the attention of the public upon the Caribbean as one of the world's outstanding tourist destination;
- Providing members with opportunities to market their products more effectively to both the Caribbean and the international Tourism marketplaces;
- Assisting member countries, particularly the smaller member countries with minimal promotion budgets, to maximize their marketing impact through the collective CTO forum.

In October 2002, a Caribbean Tourism Strategic Plan was presented to the Council of Ministers of Tourism. The current strategic objectives of the CTO are as follows:

1. To grow visitor arrivals, increase tourism's economic impact and achieve a more equitable distribution of its benefits;
2. To create a product that is sustainable, competitive and profitable;
3. To modernize the industry to face a rapidly changing global environment;
4. To fund tourism development on a sustainable basis; and
5. To achieve synergies and economies of scale through greater cooperation.

The overall vision - 'Vision 2012', articulated in 2002, comprises the following elements: the promotion of best environmental practices and healthy, safe products and services planned within a national framework of socio-economic, cultural and environmental development; creation of a tourism industry that is attractive and profitable to investors; promotion of an effective and harmonious partnership between public and private sectors, thereby creating more jobs and tax revenues; ensuring expanded and sustainable air access; maintaining a sustained, effective and multifaceted Regional Marketing programme; ensuring optimal utilization of information technology; and securing access to sustainable and adequate funding to finance Caribbean tourism development.

The CTO's Work Plan is set out in a strategic plan approved by members for execution every three years and encompasses tourism marketing, research and information management, human resource development, product development and technical assistance and consultancy services.

Tourism Marketing

Tourism marketing efforts include, inter alia, the creation and provision of programmes that promote the Caribbean as a region, the coordination of a Regional Marketing Programme, the development of Chapters in all major markets and the provision of marketing training and advice to the membership. CTO also sponsors regular trade shows in Europe and an annual Caribbean Tourism Conference where Caribbean tourism industry partners gather to discuss issues and challenges facing the sector.

Research and Information Management

The CTO conducts social, environmental and market research relating to Caribbean tourism and maintains a comprehensive tourism information system to inform public and private sector users of tourism data. The organization also provides technical assistance to member states, especially in improving their tourism statistical systems.

The core activity of this department is the collection and dissemination of statistics on Caribbean tourism. Other activities include market research, technical assistance on visitor surveys. The department's work in the area of Management Information Systems and the maintenance and management of CTO technology projects, namely: the web site - www.doitcaribbean.com, the intranet/extranet (CTONET) - www.onecaribbean.org and CTOMIST, which is a Management Information System for Tourism, constitute the primary focus of this work, with respect to the operations of the CTO.

Human Resource Development

The CTO works to broaden and strengthen the skills base and expertise of persons working in the tourism sector and has an ongoing programme of technical conferences, workshops and seminars at the national and regional levels. The Caribbean Tourism Human Resource Council develops and promotes a systematic and coordinated approach to human resources planning, research, education and training in Caribbean tourism.

Product Development and Technical Assistance

The CTO interacts with members to develop national tourism policies and action plans, links market and destination factors for the creation of marketing programmes and delivers assistance through in-house resources or contracted consultants. A key aspect of this area of work entails the hosting of the annual Caribbean Sustainable Tourism Conference. This provided a forum for the examination of problems in the development of the regional tourism product and to discuss and harmonise solutions for its sustainable growth. The organization's overall sustainable tourism programme focuses on the development of standards and indicators, the sensitization of industry personnel via workshops and ongoing interagency collaboration.

4.4 Destination: St. Lucia

St. Lucia is the second largest island in the Eastern Caribbean, with an area exactly the same as Singapore (240 square miles/620 square kilometers). With a myriad of other far more significant differences¹⁴, size is perhaps the only dimension on which these two countries are comparable.

The St. Lucian economy experienced steady growth through the second half of the 1990's as a result of expansion of the tourist and financial services sectors. Growth for 1998-1999 averaged three per cent (3%) a year, falling slightly to two per cent (2%) in 2000 as the tourism and financial services sectors slowed. Growth for 2001 was initially estimated to remain at two per cent (2%), but following the effects of the September 11 terrorist attacks on the world economy, and particularly the tourist industry, it ended up at a slightly lower figure of 1.8 per cent.

Agriculture, which is almost entirely dominated by bananas, declined steadily throughout the 1990's from sixteen per cent (16%) of Gross Domestic Product (GDP) in 1988 to less than eight per cent (8%) in 2000, but remains an important source of employment and foreign exchange. The banana crop was severely affected by bad weather in 2001 and production declined by just over fifty percent (51.3%), with a corresponding fifty-two per cent (52.1%) fall in export earnings. Diversification of this sector is badly needed as Europe continues to phase out preferred access to its banana market.

There is a relatively diversified, albeit small, manufacturing sector with product ranges including clothing, assembled electronic components, beverages and corrugated cardboard boxes. This sector contracted significantly towards the late 1990's, however, with the departure of three foreign owned clothing manufacturers when their ten (10) year duty free concession came to an end, output from the sector continued to decline in 2000 and 2001. The construction industry, as well as the infrastructure, is benefiting from public sector investment in electricity expansion and road construction. It contributed significantly to growth in 1998 and 1999, but contracted in 2000 and further in 2001.

¹⁴ St. Lucia: Population - 158,000, Per Capita Income - US\$3,970; Singapore: Population - 3,400,000, Per Capita Income - US\$32,940.

Tourism is of immense importance to the economy of St. Lucia. In 1999, the Tourism sector was the second largest contributor to real GDP at almost thirteen percent - (12.9%), second only to the Wholesale and Retail Trade Sector (at 13.96%). The performance of the tourism sector in the 1990's, contributed to the gradual transformation of the economy of St. Lucia to a more services-oriented economy. Further, by virtue of its 'networked nature', with linkages to most of the other productive economic sectors, this sector is the single largest contributor to economic activity in St. Lucia (Ministry of Finance and Economic Affairs, 2001).

Some of the specific areas in which the tourism sector has a notable impact are: employment generation (as hotels and restaurants are labour intensive operations); government revenues, (accounting for almost 10% of government revenue in 1998; financial services sector (interest revenue and net foreign exchange earnings); and creation of significant economic linkages (St. Lucia Tourist Board , 1999). Table 4.3 below outlines the output of the main productive sectors attributable to the direct impact of visitor arrivals:

Table 4.3 Percentage Output Attributable to Visitor Arrivals

Sector	% of Output Attributable to Visitor Arrivals
Distributive Trades	22
Agriculture	19
Transportation	20
Banking and Insurance	15
Government Services	18
Construction	11
Utilities	10

St. Lucia Tourist Board, 1999

With a ratio of tourist arrivals 1,730 per thousand (1,000) of the population the above figures are conservative estimates. Stopover visitor arrivals increased by 2.3 per cent in 2000 while cruise ship visitors increased by twenty-seven per cent (27%). Visitor arrivals, however, began to fall at the beginning of 2001 and there was already considerable concern in the industry before the September 11 attacks on the United States, which pushed numbers still lower.

The increase in US visitors made St. Lucia more vulnerable to the particularly severe effect of the attacks on the US market. There were some encouraging signs of some recovery in the figures as the 2001/2002 winter season progressed.

The larger properties, all-inclusives in particular, within the accommodation sector are significant consumers of goods and services in the local economy. They also play a dominant role in shaping the island's image in the marketplace. All-inclusive properties, while accounting for about forty percent (40%) of the total room stock, accommodate more than seventy percent (70%) of stay-over visitors to the island. Conversely, the remaining sixty percent (60%) of the room stock (largely small, locally owned properties) share only thirty percent (30%) of the arrivals and have therefore been subject to severe fluctuations in occupancy levels.

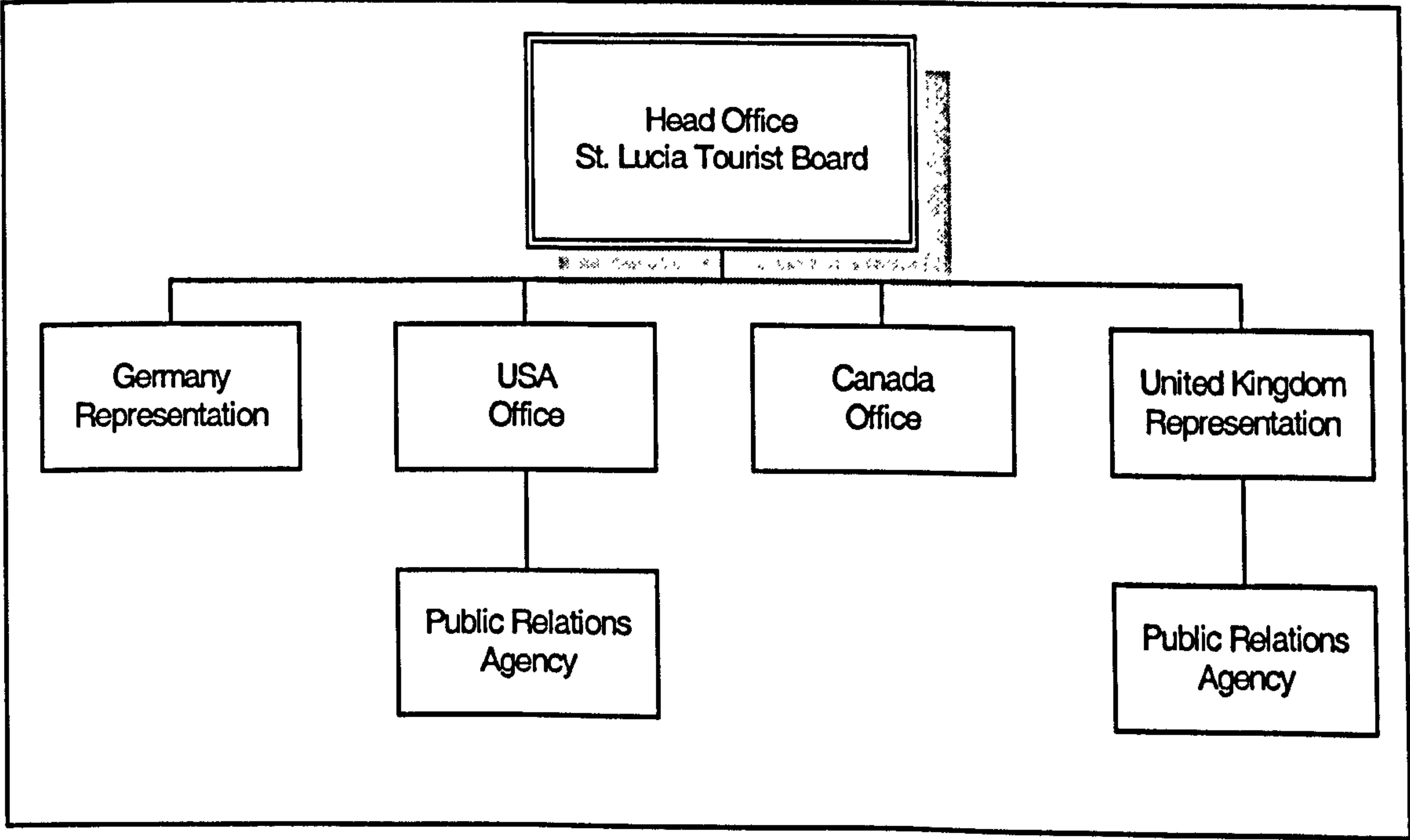
This can be largely attributed to the better matching of product offerings to customer demands, on the part of the all-inclusive properties and their successful integration with market agents. Market forces, notwithstanding, this is but one of the compelling factors which influence the involvement of public sector agencies in the business of tourism, if only to ensure that there is increased awareness of the full range of other accommodation, activities, sites and attractions available on the island.

The Tourist Ordinance Act of 1959 established the Tourist Trade Development Board of St. Lucia for the primary purpose of spearheading the development of the island's tourism industry. That entity was succeeded by St. Lucia Tourist Board (SLTB) through the adoption of the Tourism Industry Development Act of 1981. It is a Governmental Statutory body attached to the Ministry of Tourism. At the time of incorporation the Board's core function was marketing St. Lucia overseas as a tourist destination. It was also vested with the responsibilities of facilitating product development, leading efforts in investment promotion for the tourism industry and negotiating air service agreements. In addition, it was charged with managing one of the island's best known natural attractions - the Soufriere Sulphur Springs Volcano.

While the Minister of Tourism has overall responsibility for the functioning of the SLTB, policy direction and execution of tactical and operational matters have been delegated to the Board of Directors, headed by a Chairperson and a twelve member Board appointed by the Minister of Tourism for a two-year term. In addition to Marketing, the organisational structure of the SLTB provides for Administration and Accounts, Special Events and Management Information Systems. Although the SLTB is a Statutory Body, with its operations funded primarily by the Government, board members are chosen largely from the private sector and are each representative of key stakeholder interests within the industry.

The Director of Tourism is the Chief Executive Officer of the SLTB, responsible for the implementation of the policies and programs of the Board of Directors and reports directly to the Chairperson of the Board. The Director is also responsible for the daily management and administration of the organisation. In addition to the head office in St. Lucia, the St. Lucia Tourist Board (SLTB) has offices in the United States, Canada, United Kingdom and Germany. Figure 4.2 illustrates the organisational structure of the St. Lucia Tourist Board.

Figure 4.2 Organisational Structure- SLTB



In 1997, Coopers & Lybrand were commissioned to undertake a comprehensive review of the administration of the tourism industry in St. Lucia. Following this review the organisation was mandated to be responsible *primarily* for the marketing and promotion of St. Lucia regionally and internationally as a tourist destination. Many of the functions outlined above, as well as additional areas which did not previously receive attention, were assigned to other organisations, including the Ministry of Tourism and Civil Aviation (product development, small hotels, licensing and standards, nature heritage and cruise tourism and negotiating air service agreements), the National Development Corporation (investment promotion for the tourism industry), and the Soufriere Development Corporation (managing the Soufriere Sulphur Springs Volcano).

The refocusing of the mandate of the St. Lucia Tourist Board, which entailed a participatory industry-wide consultation, resulted in the formulation of three main goals: 1. to market and promote St. Lucia as a tourist destination; 2. to conduct market research; and 3. to develop events for the specific purpose of attracting visitors to the island.

In 2000, another review was undertaken, focused more at the organisational, as opposed to the industry level. The primary objective of the review exercise, as stated by the Director of Tourism, was 'to create an administrative structure to support the new marketing strategy'.

The key elements of the review entailed the: branding of the St. Lucia Tourism product to create its unique identity in the market; development of a new marketing thrust to be more consumer oriented; and the adjustment of administrative structure to support the new marketing thrust.

Consequent upon the organisational review, the following goals were articulated:

- To increase St. Lucia's presence in the main tourist generating markets and to increase arrivals to, and expenditure in St. Lucia;
- To create a better capability to develop new markets; and
- To further penetrate existing markets.

The sales representatives and overseas offices form a critical link between the destination and the marketplace in the efforts to promote and market the destination. The proposed changes with respect to the overseas offices were: the appointment of a Public Relations Agency in Germany and the use of the UK office to handle enquires and fulfilment from that market; the employment of five (5) sales representatives and the significant improvement to the web site, with greater focus on internet marketing. No significant structural changes were proposed for the Canada and United Kingdom offices.

From a technological standpoint, the St. Lucia Tourist Board's computer system was described by the Chairman, Desmond Skeete, as "....an organisational system founded on yesterday's technology and...not reaching anybody" (Skeete, 2000).

Major changes were undertaken, focussing on the use of web-based innovations, as well as some organisational structure adjustments and limited process transformations. The SLTB decided to close its New York Office and have no administrative staff in the United States. Only Sales Persons were now hired in the United States. Two sales persons now cover New York North to Boston and New York South to Philadelphia, respectively, one in Atlanta, one in Chicago and for the first time, one sales person in Los Angeles.

A new web site for the St. Lucia Tourist Board was developed. The site comprised three parts:

- an Internet, containing generic information on St. Lucia as a destination – similar to the previous web site, but more interactive and rich in functionality.
- an Intranet, permitting the Tourist Board to manage its field operatives (sales persons), equipped with mobile phones and a laptop, working from home. All support for the field operative is provided from St. Lucia (Head Office) with a 1-800 number set up at this location.
- An Extranet, enabling the Tourist Board to communicate with industry partners, such as tour operatives and travel agents, worldwide.

Similar to the United States scenario, the SLTB office in Germany was closed. Skeete (2000) indicated that more than fifty percent (50%) of SLTB's budget for Germany was spent on administrative cost and there was hardly any money left for promotional activity.

As an alternative measure, a public relations firm in Germany has been hired to build the island's image there. Further, a public relations firm has also been hired to promote St. Lucia in France. According to the Chairman, "...now we are addressing markets we had turned our backs on and we are beginning to build our image...if the numbers build up again and the demands justify it, then we can begin to put administrative personnel back into those markets" (Skeete, 2000).

The other organisations in the St. Lucia tourism sector include the St. Lucia Hotel and Tourism Association - an umbrella body of key stakeholders, including large and small hotels, airlines, ground handlers, restaurants, taxi drivers, car rental companies, souvenir gift shops, duty free shops, leisure companies, banks and other allied members.

The St. Lucia Heritage Tourism Programme spearheads the development of nature/heritage tourism, in an effort to diversify the tourism product by focusing on a sustainable, environmentally friendly and local/community based approach to tourism development. Visitor surveys undertaken by the SLTB consistently show that the 'natural environment' of St. Lucia is the most important factor contributing to a visitor's decision to select St. Lucia as a holiday destination.

The primary rationale for the Programme is that through the sustainable use of natural and cultural sites, attractions and activities in local host communities, the tourism product can be enhanced through the provision of specific goods and services, with the dual goals of natural resource protection and shared benefits to host communities – local people and local businesses. The Heritage Tourism Programme is therefore designed to assist small scale/micro entrepreneurs and communities to develop nature/heritage tourism in a manner that ensures high quality, sound environmental management and community involvement, leading to shared benefits and economic viability.

4.5 Destination: Barbados

Barbados is the easternmost island in the Caribbean. Although most other eastern Caribbean islands are volcanic, Barbados is a coral island. Like the other countries in the sub-region, tourism is the main industry, but the economy of Barbados is relatively broad-based. Tourism and financial services are the most important foreign-exchange earners. Sugar, a traditional mainstay, is, like bananas, in decline and proving difficult to maintain profitably. The unemployment rate is 9.3 percent; poverty is relatively low, with a headcount index of 13.9 percent; and social indicators are encouraging. The United Nations Development Programme's 2000 Human Development Index ranks Barbados 30th among 174 countries.

From 1984 to 1989, Gross Domestic Product (GDP) expansion averaged 3.2 percent, almost entirely because of growth in tourism and construction. Meanwhile, sectors such as manufacturing and agriculture experienced contraction. A downturn in the tourism sector, followed by a strict International Monetary Fund (IMF) adjustment program, plunged the economy into a deep recession from 1990 to 1992. In 1993 there was a modest recovery, spurred by an increase in tourist arrivals from the United Kingdom and continuing in 1994, with growth reaching four percent (4%).

A poor sugar harvest, sluggish tourism, and rising inflation slowed GDP growth to 2.9 percent in 1995, but activity then accelerated because of a strong resurgence in tourism (linked to major investments), construction, informatics, and the offshore financial sector. Growth since then has been strong, reaching 4.2 percent in 1998, 2.8 percent in 1999, and 3.1 percent in 2000. Even before the September 11 attack on the United States, tourism in Barbados was declining, however, and after eight years of growth averaging three per cent (3%) a year, the Barbados economy slowed sharply in 2001. This has continued in 2002 and Barbados has had its first negative growth figures since 1992. The deceleration began in the second quarter of 2001 with tourism (which contracted by 5.9 per cent), sugar (by 14.6 per cent) and manufacturing (by 7.6 per cent) all declining against their performance in 2000. The deceleration became more marked in the fourth quarter following the terrorist

attacks of September 11 and their effect on the already slowing US economy, and more specifically, the US tourist market. Growth, initially predicted at 1-2 per cent for 2001, actually came in at - 2.8 per cent, unemployment reached 15.8 per cent and inflation reached 2.8 per cent.

The key contributor to GDP and the main provider of foreign exchange earnings is tourism. The off-shore finance and information services have become the second most important element of the economy and continuing international confidence in this sector is encouraging. Sugar, the traditional mainstay of the economy remains an important employer and export commodity but declined in 2001 and continues to be unprofitable. Decisions about its future remain a challenge for the Government. Agriculture and manufacturing have declined or remained flat, partly an effect of the reduction in trade barriers which was continued in 2001. Manufacturing is largely limited to production for the local market, except for the agro-industries of sugar refining and rum distilling, each with substantial export production. The only heavy industry is Arawak Cement with up to two-thirds of production exported to established Caribbean markets.

Barbados was less dependent on US tourism than other Caribbean islands (See Figure 4.1 page 88) and the Government continues to pursue sound principles in managing the economy. The island's dependence on tourism, however, means that the outlook for 2002 is heavily dependent on the speed and depth of the downturn in the US economy and the extent to which tourism from the US and elsewhere continues to be affected by the terrorist attacks of September 11. Interestingly, the Barbados tourist market, which has suffered a decline, has been prevented from falling further by an increase in American tourists who see Barbados as a relatively safe destination. While overall numbers, particularly from the UK, are down, numbers from the US are up.

The key source of growth in the Barbados economy in 2000 continued to be tourism. Arrivals have risen steadily since 1992 with 1,130,000 visitors in 2000. 580,000 were cruise ship passengers, a twenty per cent (20%) increase on 1999 and the highest number ever recorded, and 545,000 were more productive stopover passengers, an increase of 6 per cent on 1999. Since then, total numbers have fallen.

The high proportion of visitors to Barbados from the UK protected the island from the severe effects of the downturn in the US tourist market seen elsewhere. There are encouraging signs of new airline capacity being switched to the island, including US Airlines from Philadelphia, Lauda Air from Milan and Condor from Frankfurt, as well additional flights on Virgin Atlantic and British Airways from the UK.

The contribution of the offshore financial sector to the economy continues to consolidate. In the middle of 2000 Barbados appeared on an OECD 'black list' of countries with harmful tax regimes (although not on the Financial Action Task Force list of fifteen (15) uncooperative jurisdictions). The Barbados Government strongly objected to its inclusion and was instrumental in initiating constructive talks between the OECD and the region, under joint Barbadian – Australian chairmanship, about how to move forward. Barbados fully meets the OECD's terms, with strong money laundering controls already in place.

The construction sector continued to expand in 2001 with around four per cent (4%) growth compared with 5.7 percent growth in 1999. The sector remains supported by Government investment in infrastructure projects such as airport expansion, sewage treatment and solid waste management, school refurbishments for the EDUTECH 2000 (computers in Education) and road repair.

Sugar production rose by 9.7 percent in 2000, to the highest level since 1997, only to fall again by nearly fifteen percent (15%) in 2001. Most of the sugar produced is sold to the European Union at a guaranteed price. Despite the higher sugar output in 2000, receipts from raw sugar were lower than in 1999, due to fluctuation of the Euro against the US dollar. Sugar production was down slightly in 2001.

In September 1958, the Barbados Tourist Board Act was passed, primarily to provide for the establishment of a Tourist Board charged with the duty of 'developing the tourist industry in the island and for matters connected therewith.' The Barbados Tourism Authority Act came into effect in 1995, repealing the Tourism Authority Act of 1993. The Ministry of Tourism is the head of the Tourism Structure in Barbados. The new act streamlines the Barbados Tourism Authority into a more marketing oriented agency. The

Board of Directors of the Authority is responsible for the execution of the Authority and for the general administration of the Authority. The Chairperson and Deputy Chairperson are appointed by the Minister of Tourism. A Tourism Advisory Council was also formed to assist the Tourism Authority.

The tourism industry accounted for an estimated fifteen percent (15%) of GDP and 55.6 percent of foreign-exchange earnings from goods and services in 2000. Stopover tourist arrivals have risen by an annual average of 5 percent since 1992, reaching 544,900 arrivals in 2000. Total expenditure by tourists has risen at the much more rapid rate of around nine percent (9%) annually, totalling US\$714.8 million in 2000. Tourists from the United Kingdom accounted for forty-one percent (41%) of total arrivals in 2000 while tourists from the United States accounted for sixteen percent (16%). Meanwhile, trade weights were sixteen percent (16%) for the United Kingdom and thirty-eight (38%) for the United States. The Barbados government has traditionally tried to appeal to upper-income tourists, and Barbados has maintained its competitive position in this market share in recent years.

The main functions of the BTA are: to promote and develop Barbados overseas. Overseas promotions are organised by the Authority's overseas offices, located in the following cities: Frankfurt (which represents mainland Europe); London; Toronto; New York, Los Angeles and Miami.

4.6 Destination: Grenada

The economy of Grenada showed healthy growth during the 1990's and the government pursues a development plan based on Grenada's appeal to foreign investors. Real GDP growth averaged seven and a half percent (7.5%) in 1999 and 6.4 per cent in 2000 with unemployment falling to twelve percent (12%) and inflation remaining in single figures. Poverty, however, remained widespread at thirty percent (30%). Growth for 2001 fell to two percent (2%) reflecting a slow down in the tourist sector. Following the September 11 terrorist attacks, which have reduced tourist demand further, that figure is now expected to be lower. Growth in 2002 is expected to stay at two percent (2%).

Grenada's recent growth has been fairly broadly based, making its economy more robust than some of its neighbours. Agricultural production and tourism are the key sectors but manufacturing and construction have also expanded. Agriculture provides around a third of Grenada's exports and employs a large proportion of the workforce. Its contribution to GDP shrank in the mid 1990's but increased in 1998-2000 reflecting high nutmeg prices and growth in fish products. Tourism, which is Grenada's major source of foreign exchange, showed substantial growth during 1998-1999 but contracted in 2000 and 2001 and remained sluggish in 2002.

Foreign investment and loans, often at commercial rates, have resulted in a construction boom, which continued through 2001 and has helped to lower unemployment rates. An offshore financial sector has also been established although there has been some international concern about the sale of economic citizenship. The Canadian Government has imposed visa requirements for Grenadians travelling to Canada because of the purchase of economic citizenship by people 'of concern' to Canada and the United States.

The key challenge for Grenada has been to maintain growth and investment in a less favourable international climate following the slow down of the US economy and the effect of the events of September 11 on the tourist market. Poverty reduction and poverty alleviation remains the Government's major preoccupation.

Grenada is known as the 'Spice Island' and is one of the world leaders in the production of nutmeg and mace. Other major agricultural products are cocoa, bananas and tropical fruits and vegetables. Diversification is a priority. Despite the current strong prices, production of nutmeg and its by-products cannot sustain the island's economic growth and banana production is struggling in the face of several setbacks and the phasing out of preferential access to the Europe Union (EU) market which is expected to be completed by 2006.

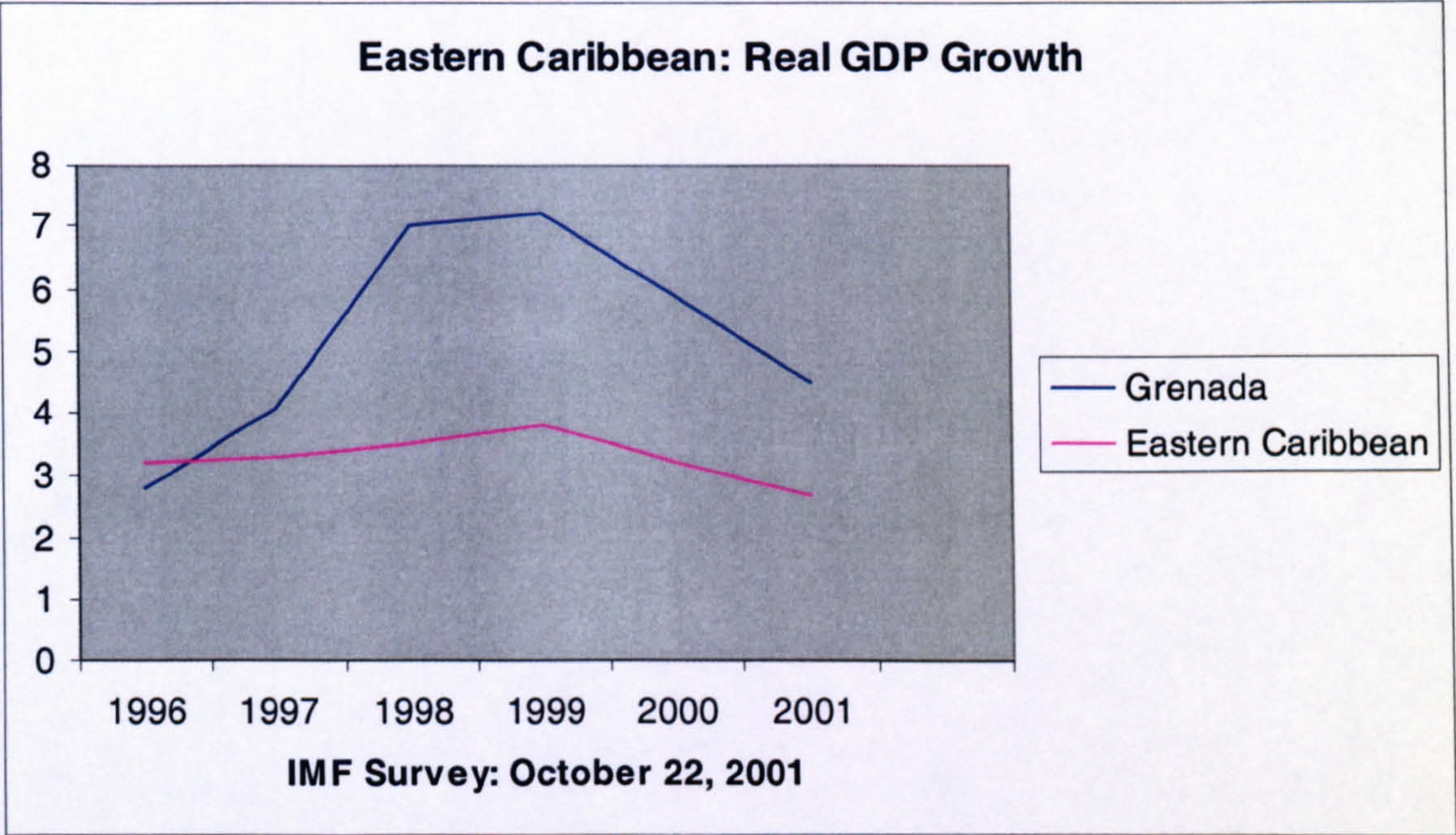
Tourism expanded steadily in 1998-1999 reaching a peak of some 380,000 arrivals but began to contract in 2000 with the withdrawal of both the only direct air service between Grenada and the US and the island's largest visiting cruiseship. Numbers fell again in the fourth quarter of 2001 following the September 11 terrorist attacks. With thirty percent (30%) of stop-over arrivals coming from the UK and approximately thirty percent (30%) from the US, however, the island is not as vulnerable to the sharp downturn in the US market as some of its neighbours with a higher proportion of US visitors. Direct flights from Europe have recommenced but growth in tourist numbers is still very slow.

The government is keen to develop the offshore sector. Following an FBI investigation of First International Bank, an International Business and Financial Corporation was established to regulate the sector. The government is also coming under some international pressure over the selling of economic citizenships.

The present government is placing increased emphasis on attracting foreign investment. Special concessions are being made to investors in the manufacturing sector and in hotel development. While keen to encourage foreign investment, the government will need to remain vigilant and selective, in order to retain investor confidence.

Grenada has been one of the fastest growing of the member countries of the OECS. Its success has been largely due to determined efforts aimed at strengthening the economy and diversifying its export product base. Figure 4.3 below illustrates the comparative real GDP growth rates of Grenada and the rest of the Eastern Caribbean states:

Figure 4.3 Comparative Growth Rate



Source: International Monetary Fund (2002)

This recent IMF survey of the Caribbean economy, notes that while Grenada remains heavily dependant on tourism and spices, it has been able to weather the effects of the collapse of the banana industry by successfully diversifying into light manufacturing, offshore financial services and, more recently, telephone and Internet-based marketing. The comparatively favorable growth, illustrated above, was due to the broad based approach, with manufacturing, residential and hotel construction and other services (particularly telecommunications and financial services) registering strong advances.

As in other countries in the Caribbean, and indeed the World, economic activity in Grenada slowed in 2001, and at least into the first half of 2002, mainly because of the effects on the vital tourism sector of the slowdown of the United States economy that was exacerbated by the September 11 attacks on the United States.

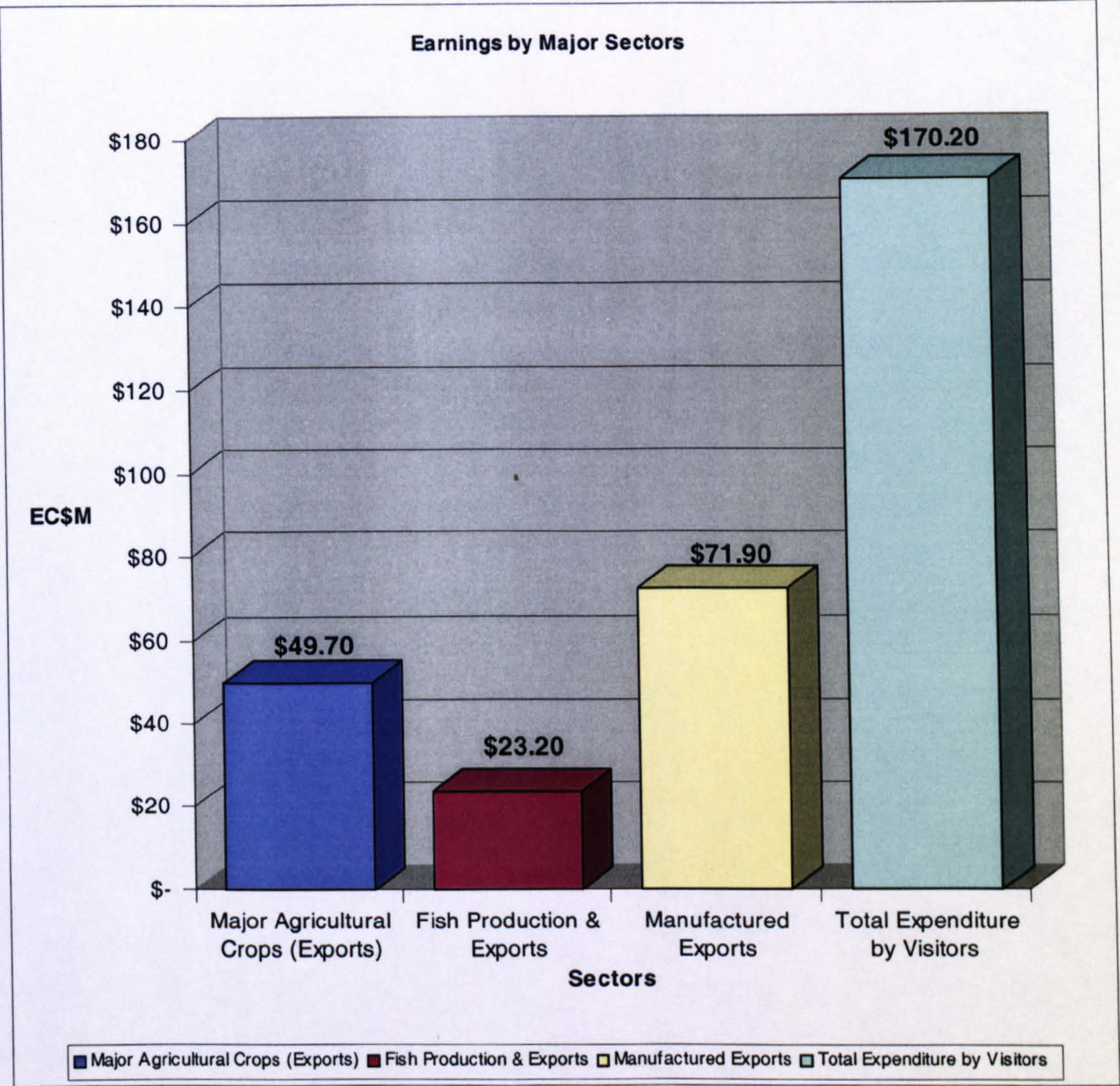
The IMF Report concludes, however, that prospects for growth still appear favorable based on ongoing and proposed tourist-related construction projects, proposals to expand the processing of spices and other agricultural products and prospects for the further

development of the telecommunications sector. Tourism is an integral part of the economy of Grenada. The sector has emerged as the lead engine of economic growth through the 1980's and 1990's. In order to ensure sustainable growth in the sector, a Strategic Plan, consistent with the policies of the Government, was developed to provide long range goals and targets for the sector. Developed in 1997, and entitled 'The Grenada Tourism Master Plan', this strategic plan was intended to establish the role of tourism in the context of the economy of Grenada, and to guide the development of the sector over the next ten (10) years, with a view to mitigating or eliminating any adverse effects on further tourism development.

The Tourism Master Plan was prepared for the Government of Grenada by a team of consultants provided by the Organisation of American States (OAS). The document provides a general assessment and overview of the sector over the last ten years and sets out the policy framework mandated by Government for the development of tourism.

As indicated earlier, since the mid 1980's the tourism sector has provided a certain level of stability, generating in excess of fifty percent (50%) of foreign exchange earnings and appreciable levels of direct and indirect tax revenues, at a time when the other major economic sector, agriculture, has shown a marked decline. Employment in the tourism sector is estimated to have increased significantly in the last decade. The following figure 4.4 indicates the relative importance of the tourism sector to Grenada, based on the comparative earnings of the main sectors:

Figure: 4.4 Earnings By Sector: Grenada



Source: Grenada Industrial Development Corporation (GIDC), 2002

The combined contribution of the three other major sectors of the Grenadian economy is less than the total expenditure by visitors to the island: (EC\$M144.80 compared to EC\$M170.20). For the year 2002, the government allocated a total of EC\$M10 to the Board of Tourism. A medium term framework for the next three years (2002-2005) was developed, under the Tourism Development Master Plan, with the following projects and activities as key priorities:

- Developing new attractions/sites and diversification of the tourism product;
- Developing strategic marketing programmes with airlines;
- Preparing destination marketing plans on a three year basis;

- Promoting the offerings of the cruise tourism sub-sector;
- Providing special support for the small hotels group; and
- Offering of incentives for hotel developers to increase the total bed-space capacity

The Prime Minister of Grenada, Dr. Keith Mitchell declared, in 2001, the next ten years as, the 'Knowledge Enhancement Decade', with the government's expressed goal being to develop a more diversified, competitive and knowledge based economy as the platform to foster, accelerate and sustain long term economic development.

Technology can provide us with access to the information and computing tools we need to make better business decisions. However, it is our human resources – our people – who will determine whether or not sustainable development is achieved and maintained (Mitchell, 2001).

Consequently, the government has embarked on a deliberate strategy to push Grenada to the forefront of ICT in the region. A Strategy for Information Technology training was developed in December, 2001, focussing on the required computing skills for the Nation, with input from the Ministry of Education, the leading tertiary institution on the island and the Department of Human Resources.

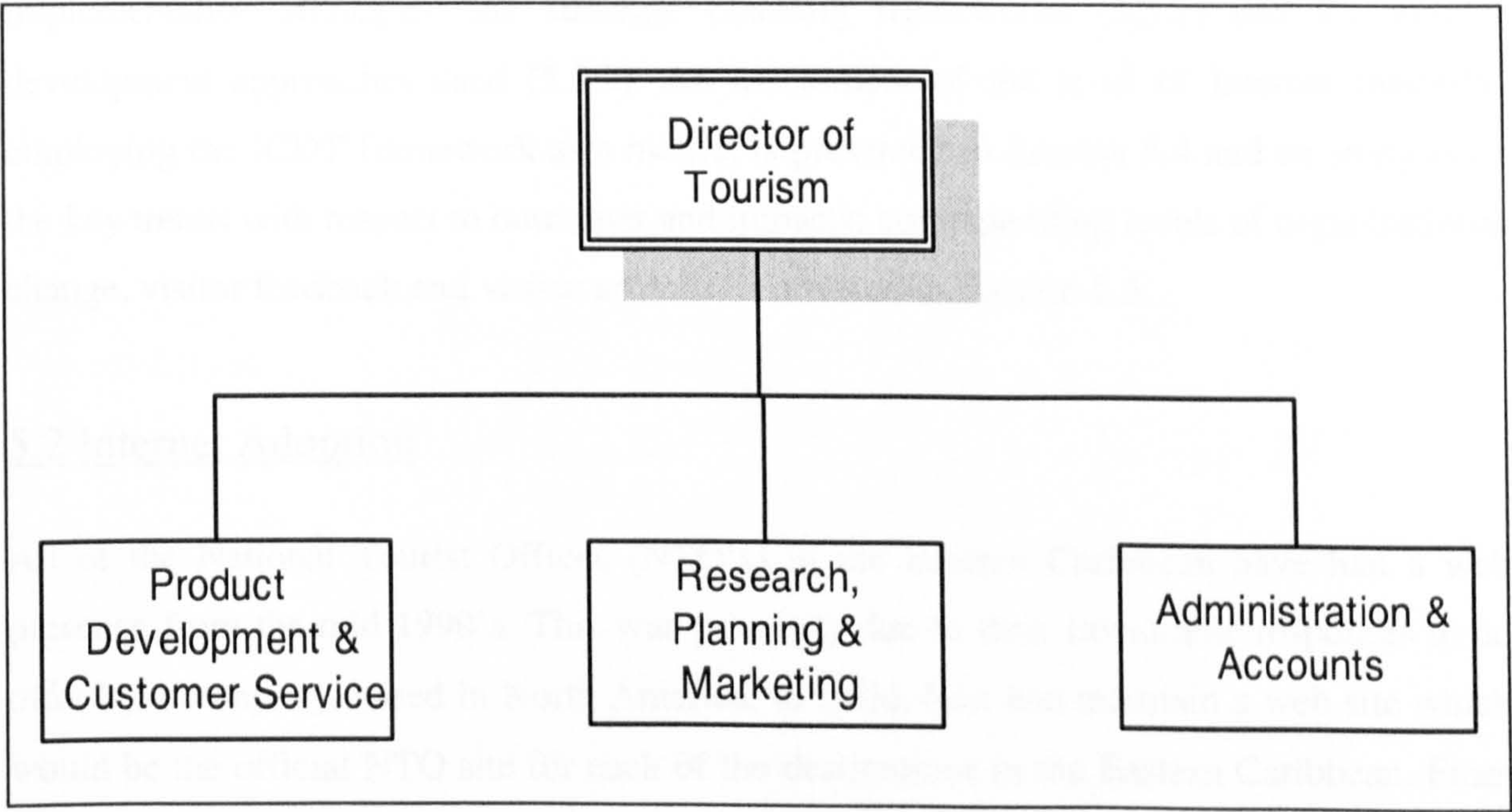
In January 2002, a National Information and Communication Technology Strategy and Action Plan were developed from an international dialogue with key stakeholders, resulting in the formation of a Central Information Management Agency (CIMA), in the Office of the Prime Minister. The primary function of this agency is to coordinate the implementation of the National ICT Strategy. In 2002, the Government allocated EC\$2.5 million dollars to the Government ICT Project. In March 2002, Grenada was selected to head the Sub-Committee for the Organisation of Eastern Caribbean States (OECS) ICT efforts.

The Caribbean market is an increasing source of visitor arrivals. A major advertising and public campaign "Let's Go Grenada" targeting both the trade and consumers in Trinidad, Barbados, St. Lucia, St. Vincent and Jamaica was launched two years ago, utilising television, radio, billboards and newspapers. Some other notable measures adopted by the

Grenada Board of Tourism include: the setting up of a Cross Departmental Web site committee and a marketing collateral committee; and significantly increasing the level of co-ordination and oversight of the Head Office Marketing Manager with respect to marketing and promotional activities in the major source markets. The Grenada Board of Tourism (GBT) has overseas offices in the United Kingdom, United States, Canada, Germany and Austria.

The organisational structure at the Grenada Board of Tourism head office is illustrated in Figure 4.5 below.

Figure 4.5 Organisational Structure - Grenada Board of Tourism



5 Case Study Analysis: E-Business

5.1 Introduction

This Chapter presents the findings of the study, with respect to the electronic business related themes and research objectives. One of the most noteworthy characteristics was the embryonic nature of web-based systems in the various National Tourist Offices. In most instances fewer than two years had elapsed since their implementation, and in some cases, they were still in the conceptualisation and planning stage.

The pattern of Internet adoption is outlined in Section 5.2, followed by a discussion of the implementation strategies: the strategic planning frameworks (5.3.1) and the system development approaches used (5.3.2). An assessment of the level of Internet maturity, employing the ICDT framework as a metric, is presented in Section 5.4 and an analysis of the key trends with respect to outcomes and impacts: corresponding levels of organisational change, visitor feedback and visitor arrivals, is covered in Section 5.5.

5.2 Internet Adoption

All of the National Tourist Offices (NTO's) in the Eastern Caribbean have had a web presence from the mid 1990's. This was primarily due to their favourable responses to an offer by a company, based in North America, to build, host and maintain a web site which would be the official NTO site for each of the destinations in the Eastern Caribbean. From 1996, therefore, all of the NTO's in the Eastern Caribbean had web sites which were fully outsourced, serving as the official site for the destination. These web sites had very little impact on the operations of the NTO's. The following statement is characteristic of the initial attempts of all the Eastern Caribbean NTO's:

Our IT strategy was let's get involved, everybody has a web site...there really wasn't a strategy at first, the strategic position sort of developed along the way as the situation unfolded. (Louis: Personal Interview)

These initial versions of the NTO web sites were simply electronic versions of their existing print material. As noted by Pollock (1997), "...many National Tourist Offices merely converted print publications into HTML format and published them on the web". The chronological development of the regional destination management organisation (CTO) and the Eastern Caribbean NTO web sites was established through semi-structured interviews (Appendix 2: Questions 1, 3 and 6) and is presented in Table 5.1 below.

Table 5.1 Chronological Development of DMO Sites

Site	Description	Date of Launch
Caribbean Tourism Organisation (CTO) Web site	Initial Version	1995
	Upgraded: English Version	January, 2001
	Upgraded: Multiple Language Version	March, 2001
CTO Intranet/Extranet	Initial Version	October, 2001
	Upgraded Version	June 2002
St. Lucia Tourist Board (SLTB) Web site & Extranet	Initial Version: Web site only	1996
	Upgraded: Multiple Language & Extranet	November, 2001
Barbados Tourism Authority (BTA) Web site	Initial Version	1995
	Upgraded Version	Ongoing
Grenada Board of Tourism (GBT) Web site	Initial Version	1996
	Upgraded: English Version	April, 2001
	Upgraded (Multiple Language) Version	December, 2002

The completion and official launch of many of the upgraded sites were planned to coincide with various international travel and tourism trade shows and the DMO's often sought to leverage the level of exposure at these events to gain much needed promotion of the web sites.

From about the latter part of 1998, there was a growing recognition on the part of many of the marketing, research and statistics personnel of these organisations, of the real potential of a web presence. A much closer interest was paid to the administration and content on their respective sites. Efforts were made to liaise with the developers with regard to posting special promotions and updating relevant destination information on the web sites. All of the NTO's indicated that the response from the hosting company was very unsatisfactory. With very little or no response forthcoming, the relationship became increasingly strained.

The hosting company had apparently been undergoing frequent changes in ownership and management. The rates imposed for maintenance services were constantly increasing and the overall level of service was reportedly quite poor. By 2000, the NTO's in Grenada and St. Lucia, and the Caribbean Tourism Organisation were actively engaged in measures, independent of the hosting company, to upgrade and re-launch their sites.

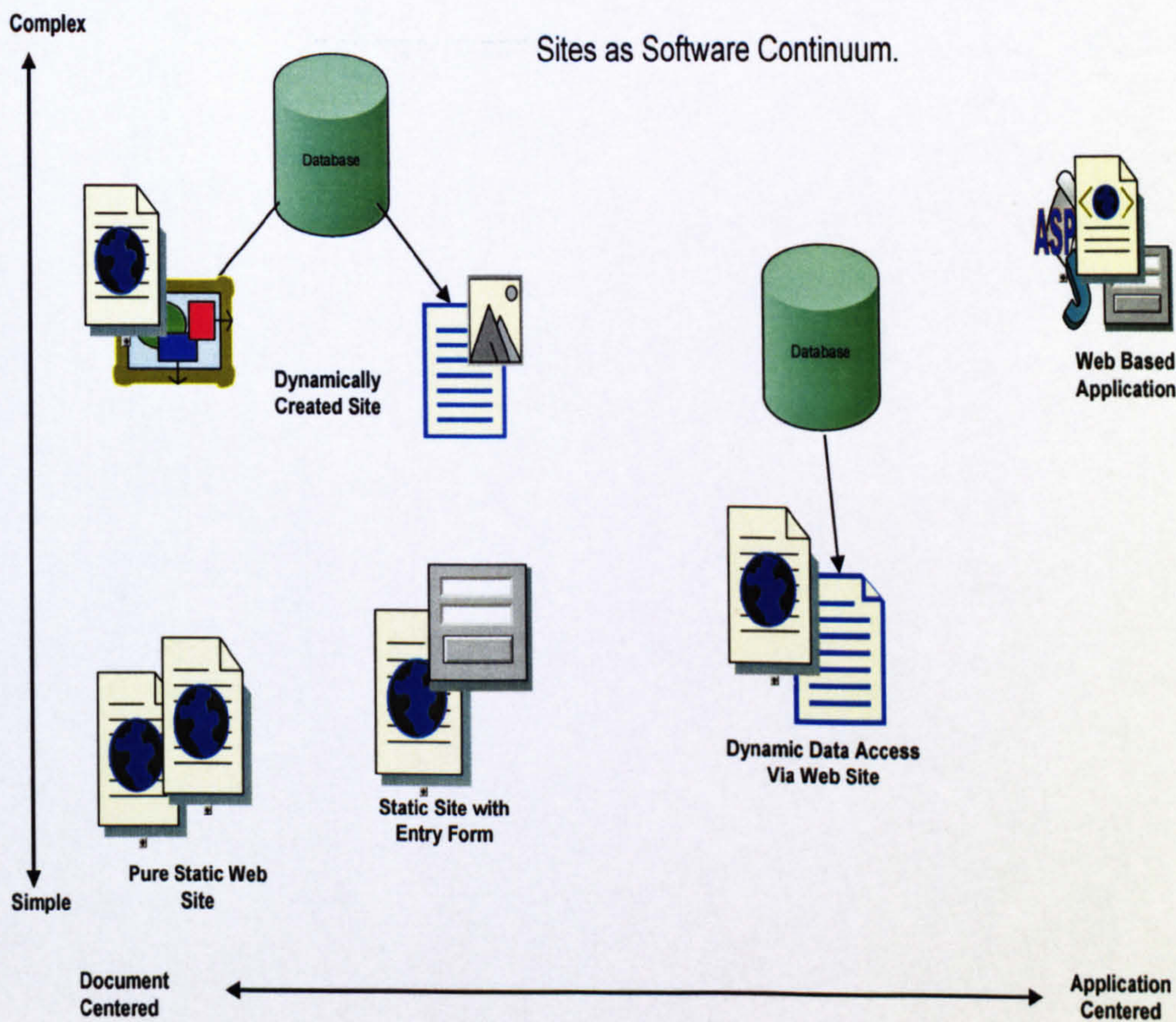
The resolution of ownership and intellectual property issues, as regards the existing web sites, proved to be quite a major challenge, however. The contractual arrangements and conditions were never quite in place, resulting in much uncertainty with respect to the ownership and intellectual property rights issues. None of the DMO's were able to successfully secure the transfer of the ownership of their respective domain names or uniform resource locators (URLs) to their organisations.

In the case of St. Lucia, after a protracted period of discussions and exchange of 'strongly worded correspondence', the official site for the St. Lucia Tourist Board had to be changed from www.stlucia.com to www.stlucia.org. Likewise Grenada, not wishing to delay the matter further by resorting to legal action, changed the official web address of the destination from www.grenada.org to www.grenadagrenadines.com. As of January 2003, discussions between the Barbados Tourism Authority (BTA) and the hosting company, was still ongoing. Both the Director of Tourism and the Manager for E-Business at the BTA cited this issue as the primary barrier to the advancement of the web-based initiatives within the organisation. The Caribbean Tourism Organisation also had to change its URL from www.caribtourism.com to www.doitcaribbean.com.

5.2.1 Levels of Complexity: NTO Web Sites

The level of complexity of the web sites can be assessed on a continuum, illustrated in Figure 5.1 below and is based on the extent to which the web site is ‘application centred’ and ‘dynamic’, as opposed to ‘document centred’ and ‘static’ (Powell, 1998).

Figure 5.1 Range of Complexity of Web Sites



Adapted from Powell (1998)

A brief description of each of the above categories of web sites is provided in Table 5. 2 below:

Table 5.2 Description of Levels of Complexity

Categories of Web Sites	Description
Pure Static Web Site	Collection of static web pages created in HTML and linked together. The emphasis is on information provided and the presentation and layout of that information.
Static with Entry Form	Limited interactivity via fill-in forms, used to collect information from the user, including comments or requests for information.
Dynamic Data Access via Site	Web Site is used as a front end for a database. Users can search and perform queries on the contents of the database.
Dynamically Created Site	Provides customized pages and content based on user preferences in order to foster a one-to-one marketing relationship.
Web-Based Application	Web sites that facilitate business processes based on software applications running in a client/server environment

Adapted from Powell (1998)

All of the DMO web sites under investigation were ‘pure static’ at the time of their initial launch in the mid 1990’s. There was a shift by to the ‘static, with entry form’ towards the late 1990’s, as some of these organisations embarked on efforts at upgrading and re-launching their web sites, as outlined in Table 5.2 above.

The levels of complexity in the Powell framework (1998) correspond to the categories of complexity of tourism web sites suggested by the United Nations Conference on Trade and Development (UNCTAD 2002). Table 5.3 outlines the characteristics of the various classifications of web site complexity, based on both frameworks:

Table 5.3 Generations and Levels of Complexity of Web Sites

Characteristics	UNCTAD (2002)	Powell (1998)
Static, information based site	First Generation	Pure Static Web Site
Transactional Site with search capabilities	Second Generation	Static with Entry Form
Client based profiling by monitoring browsing activity, enabling dynamic & personalized content for the visitor	Third Generation	Dynamic Data Access via Site & Dynamically Created Site
Active customer relationship management and an extensive knowledge of the customers' needs, habits and lifestyle.	Fourth Generation	Dynamically Created Site

Adapted from Powell (1998) and UNCTAD (2002)

None of the NTO web sites in the Eastern Caribbean employ technologies that enable personalisation (dynamically created) or use web applications as part of their destination management systems.

Through the efforts of the Caribbean Tourism Organisation (CTO), a database system - management information system for tourism (MIST) - was implemented by most of the Eastern Caribbean National Tourist Organisations. The system has a regional component, operated at the CTO headquarters, and a national component which is installed in the various member countries of CTO. The three main modules of the system, referred to as CTO MIST, deal with:

1. Performance related issues: the production, management and dissemination of tourism statistics (tourist arrival/departure statistics, visitor surveys, etc.);
2. Tourism product inventory: a database system covering accommodation, restaurants, air and sea carriers, attractions, duty free shops, ground transportation operators, events and other destination information; and,

3. Market research and market intelligence database system; with individual databases covering travel agents and tour operators, travel writers, customer enquires, familiarisation trips and source market information.

The system is written in Microsoft Access and uses Crystal Reporting to generate a wide range of reports and search capabilities. It serves not only as a stand-alone tool for reporting and planning purposes, but also as the back-end database system to support the development and functionality of some of the national tourist office web sites (enabling Dynamic Data Access via Web Site as illustrated in Figure 5.1 above).

Seven countries, including the three islands in which the field work was undertaken, were selected for the pilot stage of the project, from 1999 to 2001: *Barbados*, Dominica, Dominican Republic, *Grenada*, St. Kitts and Nevis, and the Turks and Caicos Islands and *St. Lucia*. From 2002, implementation of the CTO MIST commenced in three additional countries: Antigua and Barbuda, Guyana and Suriname.

The CTO has also been very active in the development of Internet related initiatives in the Eastern Caribbean islands. From June, 2002, this effort has been conducted in a much more systematic manner, through a CTO-Organisation of Eastern Caribbean States (OECS) Internet Project. The initiative is financed by funds allocated to the OECS Secretariat under Lome IV, with the general aim of improving the quality of the NTO internet sites in the Eastern Caribbean countries.

The principal objectives of this CTO-OECS Internet project are to: strengthen the institutional capacity of OECS NTO's in the area of Internet and other tourism related Internet technologies; improve the technical capability of OECS Webmasters and related technical personnel; increase or create opportunities for direct bookings to small hotels and tourism service providers; develop the capacity, via improved systems, to access special interest and niche markets more effectively and directly, and; generally increase visitor arrivals, visitor expenditure and enhance the sustainable tourism development process.

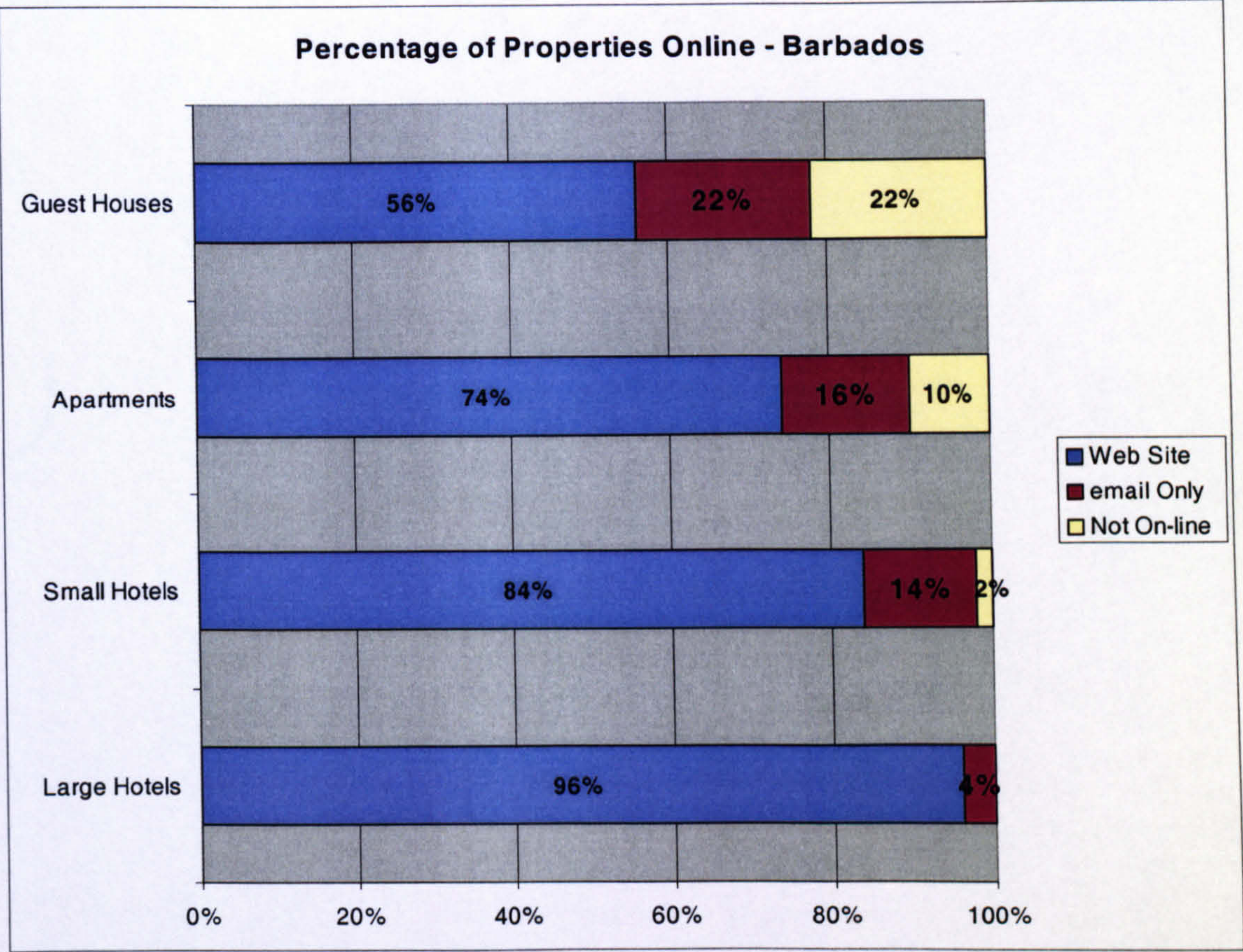
5.2.2 Internet Penetration: Tourism Industry

Although this work focuses on the public sector NTO's in the Eastern Caribbean, it was recognised that the level of connectivity of local stakeholders in the tourism industry, particularly the accommodation sector, is an important consideration with respect to the web-based activities of NTO's (WTO, 2001).

Accordingly, the author undertook secondary data analysis on the listings of the total number of accommodation establishments, and those which had web sites or email addresses for their respective organisations. This information was gathered from the Hotel and Tourism Associations and the National Tourist Offices in the three islands in which the case studies were done: Barbados, Grenada and St. Lucia, and was used to determine the extent of Internet adoption in the accommodation sector. The data on accommodation establishments with web sites and email addresses were collated and the level of 'Internet penetration' was established based on the percentage of properties which had web sites or email accounts for their respective organisations.

It was found that almost all of the larger properties had web sites - ninety-six to one hundred percent (96%-100%). These establishments are, for the most part, either part of international chains or are foreign owned. At the other end of the spectrum, Guest Houses, Villas and Apartments have a relatively low Internet presence (Figures 5.2-5.4 below). Given the comparative levels of economic and social development in the three islands, it was not surprising that the highest penetration rate is in the island of Barbados.

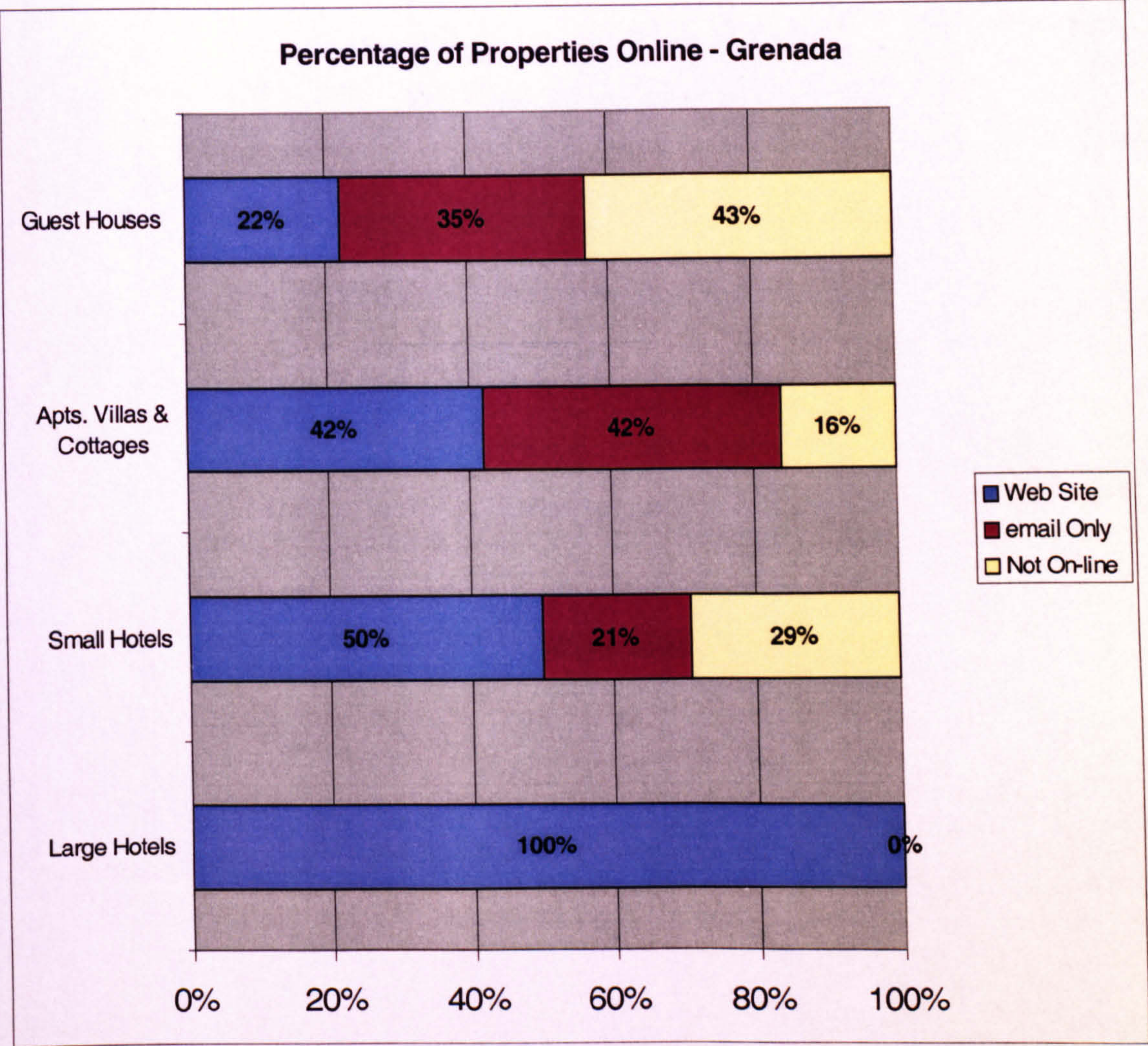
Figure 5.2 Level of Internet Penetration: Accommodation Sector: Barbados



Sources: Barbados Tourism Authority (2002); Grenada Board of Tourism (2003); Grenada Industrial Development Corporation (2002), St. Lucia Hotel and Tourism Association (2002); St. Lucia Tourist Board (2003)

Interviews conducted with industry personnel in Barbados revealed that the awareness of the importance of an Internet presence is universal and the establishments which do not have a web presence are either in the process of doing so, or simply cannot afford to do so, due to severe financial constraints. In a few instances, it was found that there was a deliberate decision against an online presence. This was due largely to the high level of reliance and apparent satisfaction with the traditional distribution channels and a lack of appreciation of the potential additional benefits of an Internet presence. As indicated in Figure 5.3 below, the level of connectivity in Grenada was also at reasonably high levels:

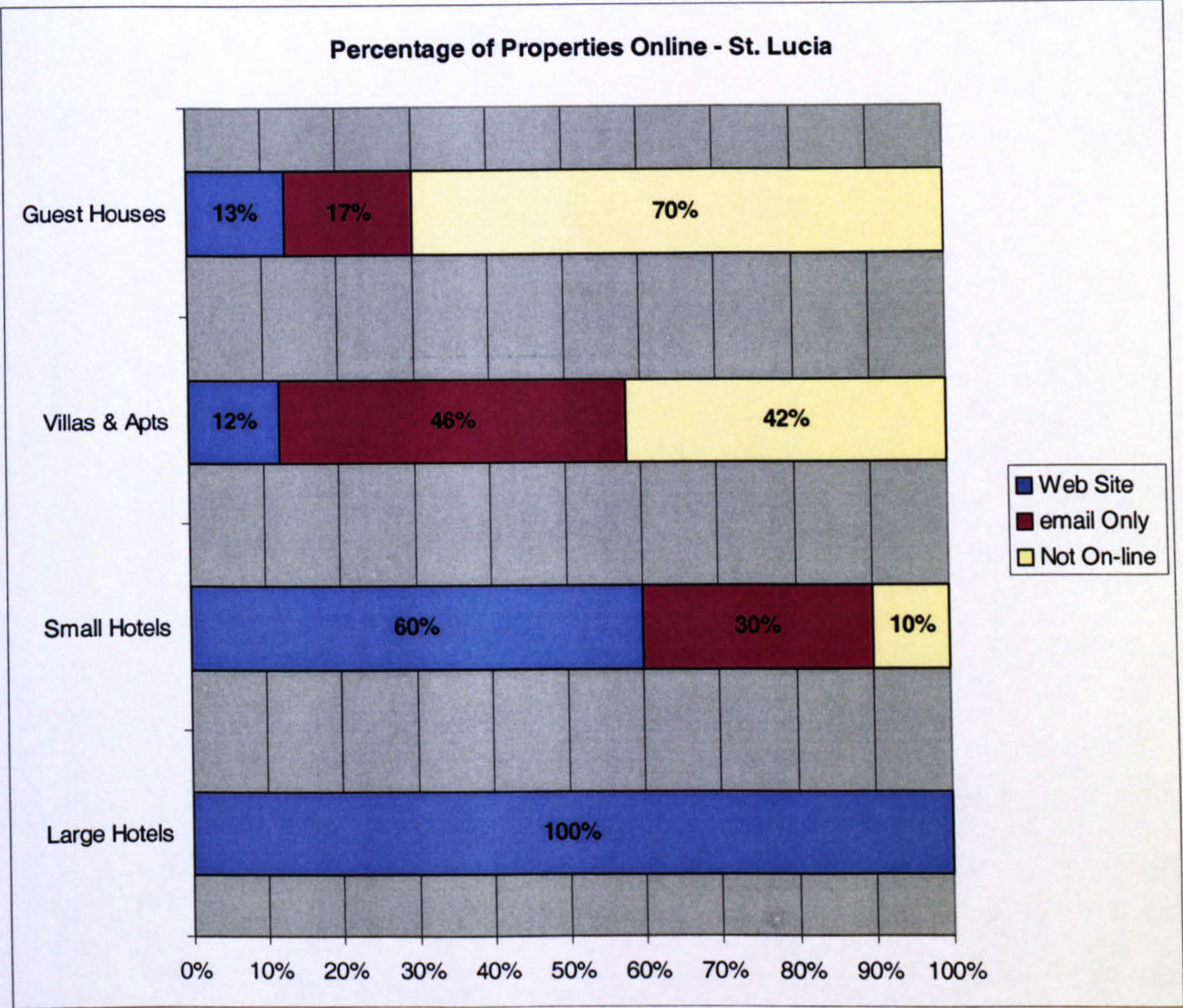
Figure 5.3 Level of Internet Penetration: Accommodation Sector: Grenada



Sources: Barbados Tourism Authority (2002); Grenada Board of Tourism (2003); Grenada Industrial Development Corporation (2002), St. Lucia Hotel and Tourism Association (2002); St. Lucia Tourist Board (2003)

The low internet penetration in the Guest House segment of the accommodation sector in Grenada is attributed to the fact that most of these property owners are older, retired persons, who moved back to the island after working for most of their lives in the United States and the United Kingdom. The connectivity for Apartments, Villas and Cottages is higher than that of Guest Houses and even Small Hotels, primarily because many of these establishments position themselves at the high end of the market, offering luxury, exclusive type accommodation.

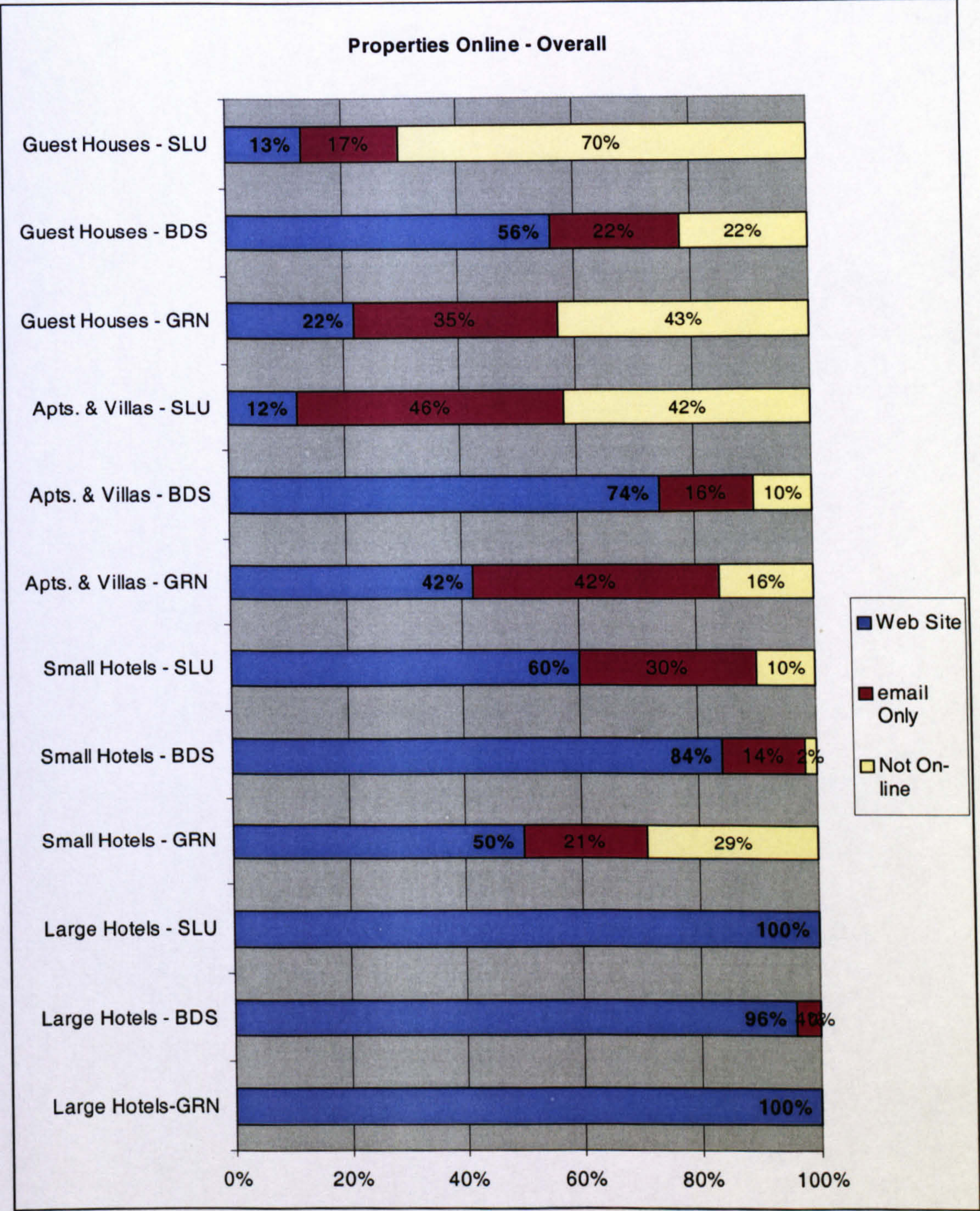
Figure 5.4 Level of Internet Penetration: Accommodation Sector: St. Lucia



Sources: Barbados Tourism Authority (2002); Grenada Board of Tourism (2003); Grenada Industrial Development Corporation (2002), St. Lucia Hotel and Tourism Association (2002); St. Lucia Tourist Board (2003)

The low rate of penetration reflected in Figure 5.4 above, with respect to Guest Houses and Villas and Apartments in St. Lucia is striking. These establishments are owned almost exclusively by St. Lucian nationals. The primary reasons for this are the low level of awareness and financial constraints. A comparative analysis of the levels of connectivity by the type of accommodation, across the three islands (St. Lucia - SLU, Barbados - BDS and Grenada - GRN), is presented in Figure 5.5, below:

Figure 5.5 Level of Internet Penetration: By type of Accommodation



Sources: Barbados Tourism Authority (2002); Grenada Board of Tourism (2003); Grenada Industrial Development Corporation (2002), St. Lucia Hotel and Tourism Association (2002); St. Lucia Tourist Board (2003)

5.3 Information Systems Implementation

5.3.1 Strategic Planning Framework

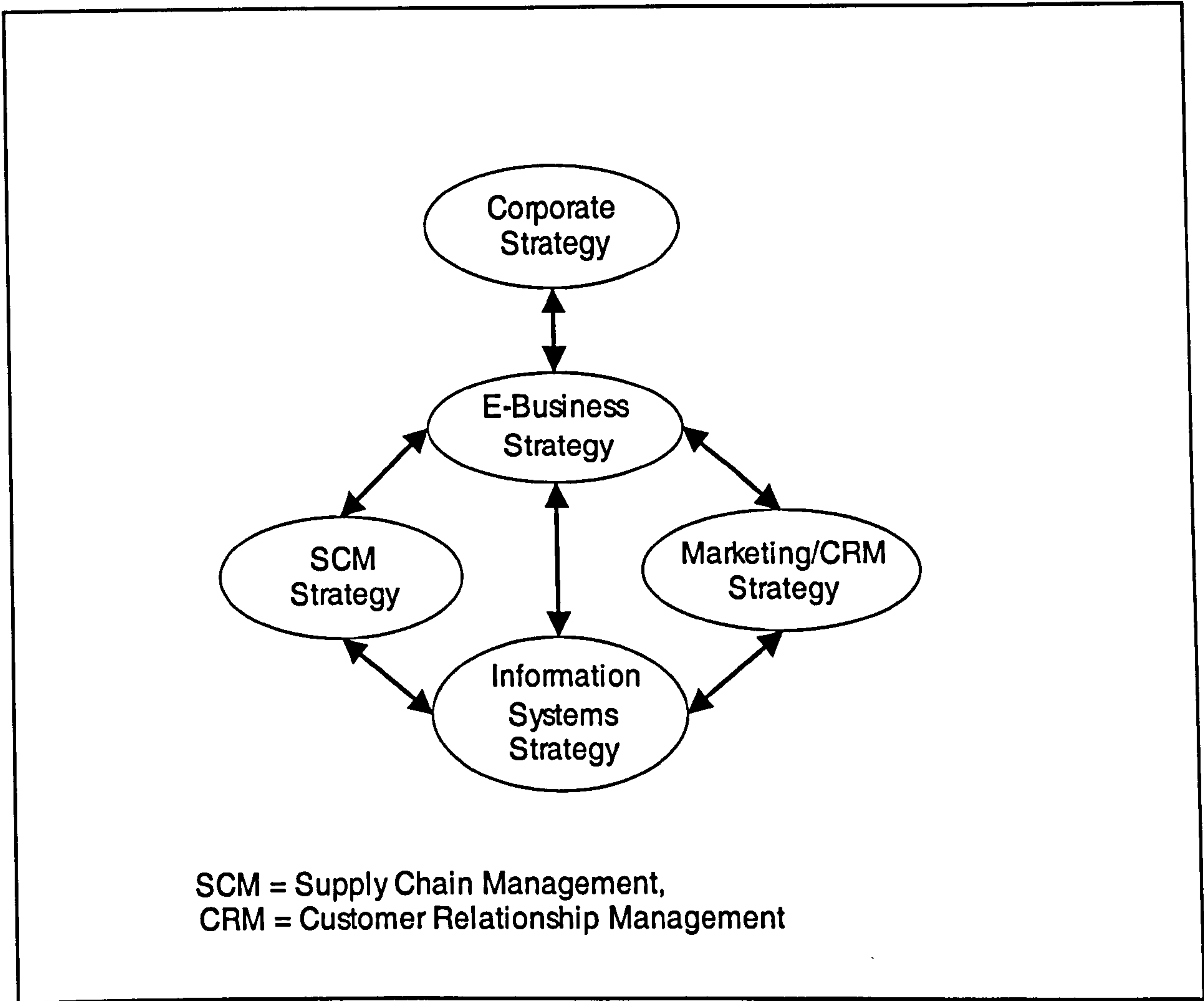
One of the research questions, which guided the execution of this study, centred on the issue of the extent to which the Internet and web-based systems in Eastern Caribbean Destination Management Organisations were being developed and implemented within a broader strategic context. Porter (2001) notes pointedly, that “far from making strategy less important, as some have argued, the Internet actually makes strategy more essential than ever.” This section presents the findings with respect to the adoption of the Internet and web-based systems in the context of strategic frameworks.

Several levels of strategy can be identified within an organisational context:

- corporate strategy, which entails the overall purpose and scope of the organisation;
- business unit strategy, which defines how the firm competes in a particular market;
- operational strategies or plans, which speak to the achievement of corporate and business unit strategies (Turban et al. 2002).

Functional or process strategies refer to marketing, supply chain management, human resources, finance and information systems strategies (Johnson and Scholes, 1999). E-Business strategy should support, extend or be the driver of corporate strategy objectives, business unit, operational and functional level strategies (Chaffey, 2002; Turban et al. 2002). The relationship between the various levels of strategy is outlined in Figure 5.6 below as follows:

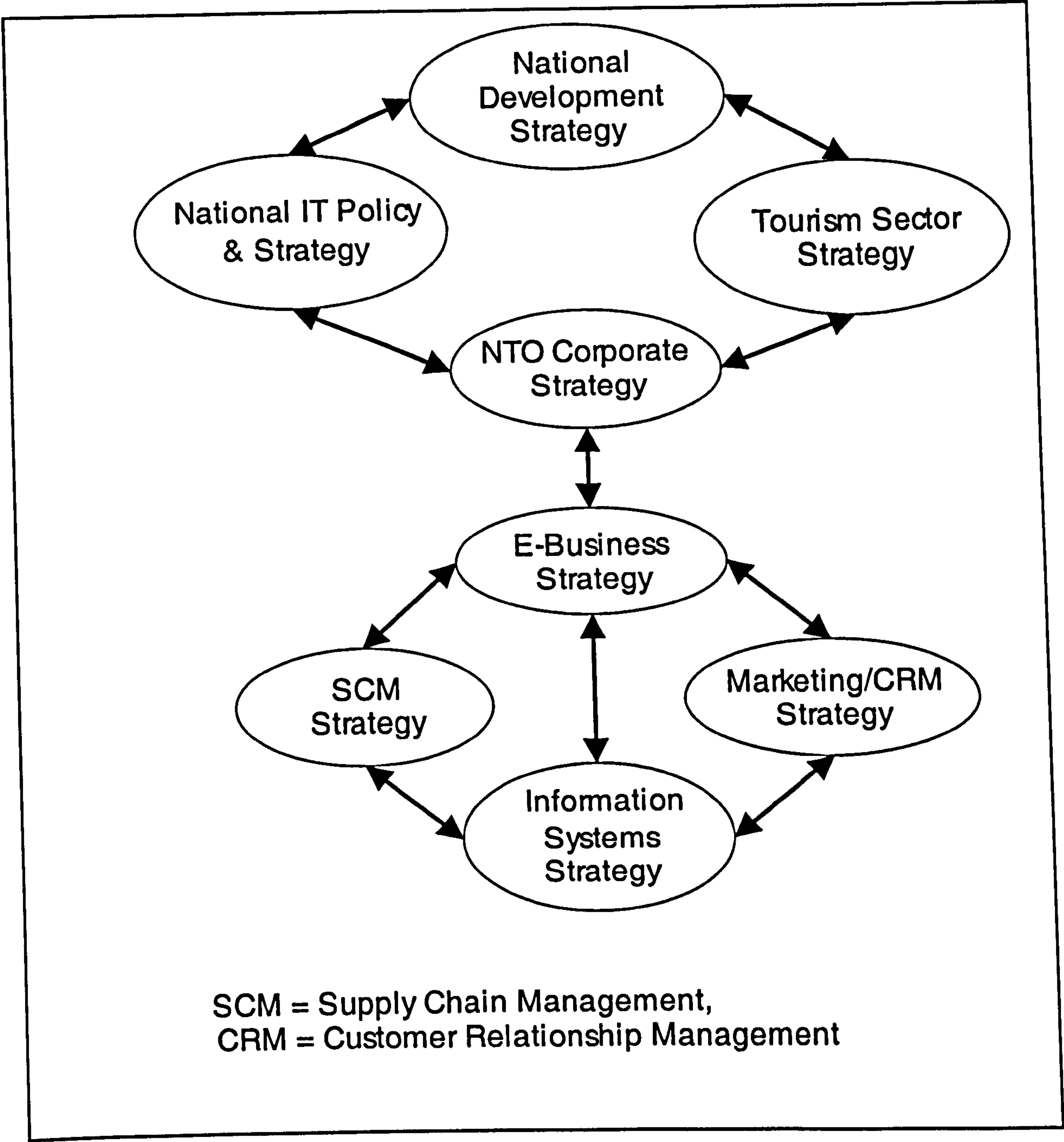
Figure 5.6 Relationship between E-Business Strategy and Other Strategies



Source: Chaffey (2002)

Given the context of this study, *additional dimensions* within the strategic framework were identified by the author, which are extremely relevant to the National Tourism Offices under investigation: national development strategies, industry/tourism sector strategies and national information technology (IT) policies and strategies. The extension of the Chaffey (2002) strategy framework is shown in Figure 5.7 below:

Figure 5.7: NTO Strategic Planning Framework



Adapted from Chaffey (2002)

At the destination level, the national development strategy for the island should inform and shape the formulation and implementation of the tourism sector strategy and the national IT policy and strategy. These two broader aspects should, in turn, guide the development and execution of the corporate level strategy, as well as the other organisational level strategies: SCM, IS and Marketing. The electronic business (e-business) strategy should support,

extend or be the driver for these functional strategies. The Kettinger and Hackbarth framework (2000) is presented in Table 5.4 below.

Table 5.4 Levels of Electronic Commerce and Strategy Formulation

Three Levels of E-Business			
	Level One (1) Experimentation	Level Two (2) Integration	Level Three (3) Transformation
E-Business Strategy	No E-Business Strategy	E-Business Strategy supports current (as is) Corporate Strategy	E-Business Strategy supports breakout (to be) Corporate Strategy
Corporate Strategy	E-Business Strategy not linked to Corporate Strategy	E-Business Strategy Subservient to Corporate Strategy	E-Business Strategy is a driver of Corporate Strategy
Scope	Departmental/Functional Orientation	Cross-Functional Participation	Cross enterprise involvement (interconnected customers, suppliers & partners)
Payoffs	Unclear	Cost Reduction, Business Support & enhancement of existing practices, revenue enhancement	New Revenue Streams, new business lines, drastic improvements in customer service & customer satisfaction
Levers	Technological Infrastructure & Software Applications	Business Processes	People, Intellectual Capital & Relationships, Cooperation
Role of Information	Secondary to Technology	Supports Process Efficiency & Effectiveness	Information Asymmetries used to Create Business Opportunities
		Breakout Strategy	

Source: Kettinger and Hackbarth (2000) in Turban et al. (2002)

This framework was also extended to reflect the additional levels of strategy identified above (national development strategies, industry/tourism sector strategies and national information technology (IT) policies and strategies), and is outlined in Table 5.5 below, in addition to the other functional level strategies: information systems and marketing strategy.

Table 5.5 Extended Levels of Strategy Formulation and Electronic Business

Three Levels of E-Business Development			
Strategy Levels ↴	Level One (1): Experimentation	Level Two (2): Integration	Level Three (3): Transformation
Information Systems Strategy	Information Systems Strategy not linked to E-Business Strategy or No IS Strategy	Information Systems Strategy supports current (as is) E-Business Strategy	Information Systems Strategy supports breakout (to be) E-Business Strategy
E-Business Strategy	E-Business Strategy not linked to Information Systems Strategy or No E-Business Strategy	E-Business Strategy extends and supports current (as is) Information Systems Strategy	E-Business Strategy is the driver of Information Systems breakout (to be) Strategy
Marketing Strategy	Marketing Strategy not linked to E-Business Strategy or No Marketing Strategy	E-Business Strategy supports current (as is) Marketing Strategy	E-Business Strategy supports breakout (to be) Marketing Strategy
Corporate Strategy	Corporate Strategy not linked to Marketing Strategy or No Corporate Strategy	E-Business Strategy Subservient to and supports Corporate Strategy	E-Business Strategy is a driver of Corporate Strategy
Industry (Tourism) Policy & Strategy	Industry Strategy not linked to Corporate Strategy or No Tourism Industry Strategy	E-Business Strategy Subservient to and supports Tourism Strategy	E-Business Strategy is a driver of Tourism Strategy
National ICT Policy & Strategy	National ICT Strategy not linked to Industry or No National ICT Strategy	E-Business Strategy Subservient to and supports National ICT Strategy	E-Business Strategy is a driver of National ICT Strategy
National Development Strategy	National Development Strategy not linked to National ICT Strategy or No National Development Strategy	E-Business Strategy is subservient to and supports current (as is) National Development Strategy	E-Business Strategy supports break-out (to be) National Development Strategy

Adapted from Kettinger and Hackbarth (2000) in Turban et al. (2002)

The three levels of development of e-business: experimentation, integration and transformation, in relation to the ‘extended’ levels of strategy are indicated in Table 5.5 above. The application of the ‘extended’ Kettinger and Hackbarth (2000) framework was based on: secondary data from the various Ministries of Tourism and National Tourist

Offices; primary data gathered through semi-structured interviews (Appendix 2: Question 7); survey instrument (Appendix 4: Question 2); and unstructured interviews with several public sector and tourism industry personnel. The data analysis in this regard revealed that there was very limited development in terms of the existence and use of strategic frameworks at the various strategy levels. Where such strategic frameworks exist, they were generally not integrated with other related strategies, with the exception of Grenada, in some instances. In no case was the ‘transformation’ level (3) evident in any of the organisations examined. This analysis for the three National Tourist Organisation case studies is presented in Table 5.6 below.

Table 5.6 Application of Strategic Framework

Strategy: Case Study Summary			
Strategy Levels	Barbados Tourism Authority	St. Lucia Tourist Board	Grenada Board of Tourism
Information Systems Strategy	Level (0): None Exists ¹⁵	Level (0): None Exists	<i>Level (2): Integration</i>
E-Business Strategy	Level (1): Experimentation	Level (0): None Exists	<i>Level (2): Integration</i>
Marketing Strategy	Level (1): Experimentation	Level (1): Experimentation	<i>Level (2): Integration</i>
Corporate Strategy	Level (1): Experimentation	Level (1): Experimentation	Level (1): Experimentation
Tourism Policy & Strategy	Level (1): Experimentation	Level (0): None Exists	Level (1): Experimentation
National ICT Strategy	Level (0): None Exists	Level (0): None Exists	Level (1): Experimentation
National Development Strategy	Level (1): Experimentation	Level (0): None Exists	Level (1): Experimentation

Adapted from Kettinger and Hackbarth (2000) in Turban et al. (2002)

¹⁵ Where a given level of Strategy does not exist, this is denoted as (0), instead of (1), so as to highlight the distinction between the ‘Experimental’ use, designated as Level (1) and the complete absence of the Strategy, Level (0).

The corresponding aspects of: scope, payoffs, levers and the role of information were also assessed for each of the case study sites. The generic framework is outlined in Table 5.7 below:

Table 5.7 Other Elements of Strategy Formulation and Electronic Business

Three Levels of E-Business			
Other Elements	Level One (1): Experimentation	Level Two (2): Integration	Level Three (3): Transformation
Scope	Departmental/Functional Orientation	Cross-Functional Participation	Cross enterprise involvement (interconnected customers, suppliers & partners)
Payoffs	Unclear	Cost Reduction, Business Support & enhancement of existing practices, revenue enhancement	New Revenue Streams, new business lines, drastic improvements in customer service & customer satisfaction
Levers	Technological Infrastructure & Software Applications	Business Processes	People, Intellectual Capital & Relationships, Co-operation
Role of Information	Secondary to Technology	Supports Process Efficiency & Effectiveness	Information Asymmetries used to Create Business Opportunities
		Breakout Strategy	

Source: Kettinger and Hackbarth (2000), cited in Turban et al. (2002).

It was found that the level of development for most of the above elements: Scope, Payoffs, Levers was limited to level one (1). Some evidence of level (2) was noted with respect to ‘scope’ in the Grenada Board of Tourism. The ‘role of information’, for the most part was at level two (2). A summary of the assessment of these other elements in the strategy formulation process, essentially the results of the application to the case study data is presented in Table 5.8:

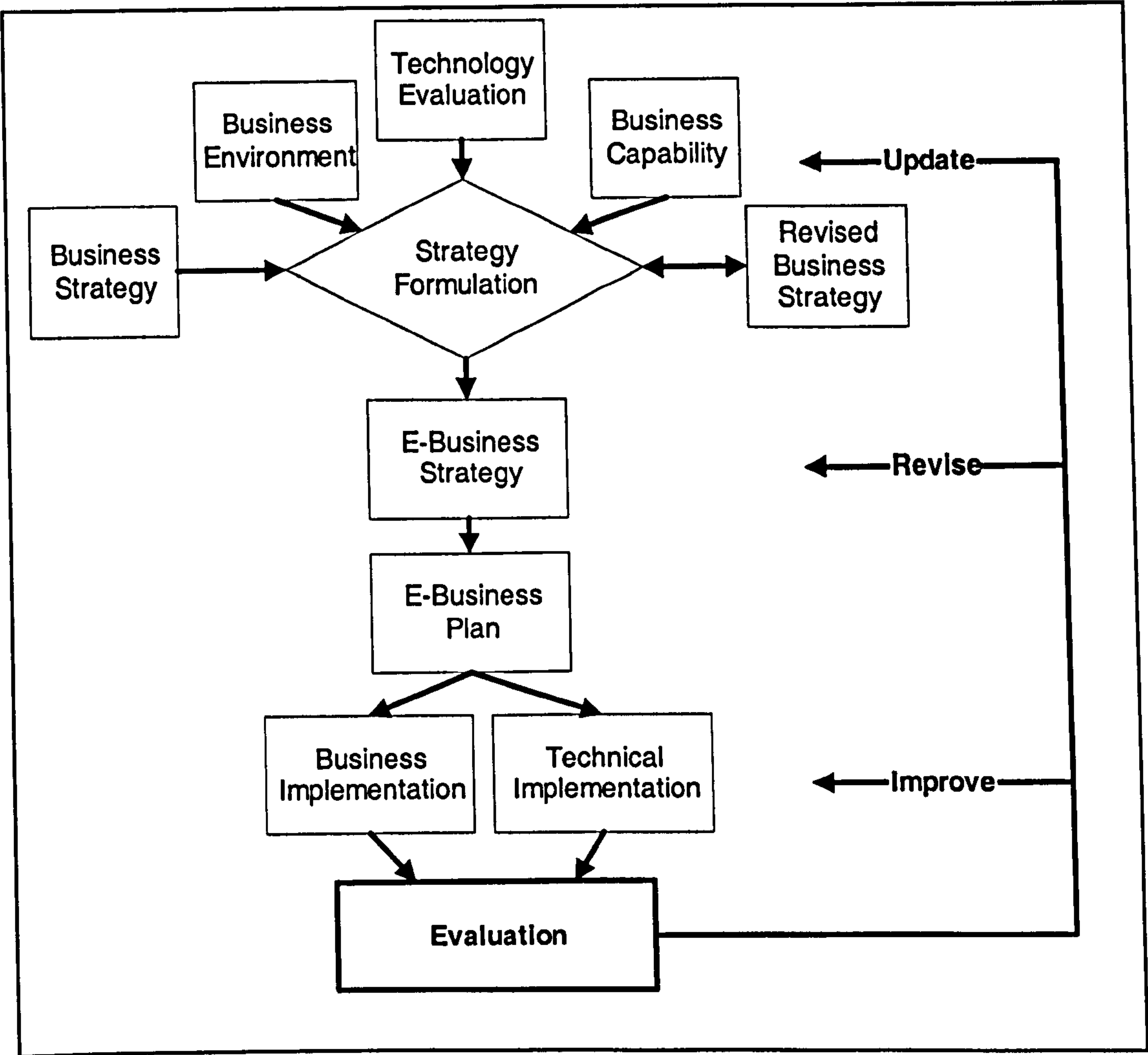
Table 5.8 Other Elements of Strategy Formulation and Electronic Business

Strategy: Case Study Summary				
Other Strategy Elements	Barbados Tourism Authority	St. Lucia Tourist Board	Grenada Board of Tourism	Caribbean Tourism Organisation
Scope	Level One (1): Experimentation Departmental/ Functional Orientation	Level One (1): Experimentation Departmental/ Functional Orientation	<i>Level Two (2):</i> Integration Cross-Functional Participation	Level One (1): Experimentation Departmental/ Functional Orientation
Payoffs	Level One (1): Experimentation Unclear	Level One (1): Experimentation Unclear	Level One (1): Experimentation Unclear	Level One (1): Experimentation Unclear
Levers	Level One (1): Experimentation Technological Infrastructure & Software Applications	Level One (1): Experimentation Technological Infrastructure & Software Applications	Level One (1): Experimentation Technological Infrastructure & Software Applications	Level One (1): Experimentation Technological Infrastructure & Software Applications
Role of Information	<i>Level One (1):</i> Experimentation Secondary to Technology	Level Two (2): Integration Supports Process Efficiency & Effectiveness	Level Two (2): Integration Supports Process Efficiency & Effectiveness	Level Two (2): Integration Supports Process Efficiency & Effectiveness

Adapted from: Kettinger and Hackbarth (2000), cited in Turban et al. (2002).

Additionally, across all of the case study sites, there are very little systematic and consistently applied evaluation and monitoring mechanisms in place. Such mechanisms would serve as the critical feedback loop, towards ‘improving, revising or updating’ the various aspects of the Strategy formulation and implementation process, as illustrated in Figure 5.8 below.

Figure 5.8 Role of *Evaluation* in the Strategy Formulation Process



Source: Bloch et al. (1996)

One of the main methods of evaluation of web site success, utilised to some extent by all of case studies, is the use of the web activity monitoring tool, Web Trends (Section 5.6 provides further discussion of the use and findings with respect to this measure).

The adoption of the Internet, electronic business and the development of web-based systems in the National Tourist Offices in the Eastern Caribbean is not done in the context of a broader National IT Policy or Strategy. There is very little integration, within an overall strategic framework. At the organisational level, the approach to the initial adoption of the Internet is best portrayed by a statement made by one of the respondents, cited earlier:

Our IT strategy was let's get involved, everybody has a website...there really wasn't a strategy at first, the strategic position is developing along the way as the situation unfolds (Louis: Personal Interview)

At the organisational/NTO level the initial driver was essentially a 'me-too' approach, where the institutions adopted web sites merely on the basis that others have done so and it seemed to be the 'right thing to do' at that particular time. As noted by the Director of Information Management and Research at the CTO, with respect to the implementation of web-based initiatives in the various Eastern Caribbean NTO's:

They are promoting an industry and they know that it is now generally recognised that the Internet is a critically important component...so they set about to get a web site. In the more extreme cases you have countries, finding someone [outside the organisation] to assign that responsibility to, agreeing on a price to build a web site and that's it... [with respect to the NTO involvement] (Sobers: Personal Interview)

Developments with respect to the use of the Internet and web-based systems tended to be done in an ad hoc manner, "it has been happening, but more in response to, more in a reactive rather than a proactive manner" (Sobers: Personal Interview).

More recently, however, there has been evidence of a slow shift towards a more strategic and structured approach to the development and use of the Internet and web-based systems. The St. Lucia Tourist Board (SLTB), for example, has been attempting to leverage the use of IT at the organisational level. One of the strategic roles of the upgraded web site was to re-structure operations of the organisation in the North American market.

The intention was to use the Extranet as the focal point for co-ordinating the activities of sales representatives in that market. In preparation for this, and in light of cost considerations, the SLTB office in New York was closed in June, 2001. Sales representatives were required to work from home, and on the road, with online support and collaboration with the SLTB head office in St. Lucia, via email, and the Extranet in particular.

The basis of collaboration, however, is still primarily via email, telephone and fax. The limited role of the Extranet in this new strategic direction was noted by the Deputy Director of the SLTB:

In terms of the new organisational structure in the North American Market, it [the web site] is helping them, it is so much more detailed that it is very easy to refer people to the web site. But in terms of using the Extranet as a tool for sharing information and collaborating with them, we are not doing that properly (Fowell: Personal Interview).

Some degree of integration at the level of the marketing *activities* and the information systems *function*, was evident, however, in the development of the upgraded St. Lucia Tourist Board Web Site. All the informants indicated that there was significant collaboration between the IS and marketing functions, at various levels. A major re-branding exercise was also undertaken, which coincided with the launch of the new site. While both the web development and the re-branding exercise were outsourced to two separate companies, one in the United States and the other in the United Kingdom – a significant level of coordination was achieved.

Grenada has also been pursuing a slightly more integrated and structured approach to the use of IT and the Internet, at the National level, as well as within the NTO – the Grenada Board of Tourism. It is the only country in the Eastern Caribbean that has adopted a National ICT Policy and Strategic Plan. In addition, a Central Information Management Agency (CIMA) was set up in January, 2002, to manage ICT related matters at the national level. Notwithstanding these developments, the underlying problem is that the efforts are not integrated in any significant way, at the strategic levels.

Within the Grenada Board of Tourism, the formation of a cross-departmental Web Site Committee has contributed greatly to a much more co-ordinated approach to the use of the Internet and web-based activities in the organisation.

The committee is very active. We are putting in place an action plan for the stages that we want to go through [with the further development of the web site]. The role of the Internet is also going to be factored into

our [corporate] strategic plan and into our marketing plan as well. So even though it is a tool, we are going to make sure that it is laid out and the direction [for the web site] is also put into the [corporate] strategic plan...so that we know where we are going (Ramdeen-Joseph: Personal Interview).

The above developments outlined in St. Lucia and Grenada notwithstanding, the present situation is perhaps best illustrated by the following statement:

They [Eastern Caribbean NTO's] have not yet integrated IT into the overall developmental strategy. The CTO is guilty of some of that, actually the whole Caribbean I think is. It is often not a deliberate, integrated part of the overall strategic thrust. A lot of countries, even now, still have a difficulty with what sort of mix they will have amongst the marketing tools at their disposal....and IT still tends to be *out there*. They recognize its significance and the need to act and they are doing something about it...but the idea that it is all coordinated and strategic...is not a reality (Sobers: Personal Interview).

5.3.2 Systems Development Approaches

A wide range of methods can be used to develop or build computer based information systems. These methods often vary based on the size, technological complexity, time and financial resources available. The particular organisational problems or opportunities that the information system is intended to address also influence the decision as to systems development approach (O'Brien, 2001). A decision support system (DSS), for example, would often entail a large element of the prototyping approach, given the need to tailor the system to the specific requirements of a particular user or group of users.

The primary systems development approaches or methods, arising out of the information systems implementation literature are: traditional systems lifecycle; prototyping; application software packages; end-user development; and, outsourcing (Laudon and Laudon, 2002). It must be noted, however, that in the *actual* systems implementation process, methods are often combined and hybrids of these classic approaches often emerge.

For example, end-user development efforts may also employ application software packages, the traditional systems lifecycle often makes use of prototypes and outsourcing may also entail the use of application software packages, the traditional systems lifecycle, prototyping, or some or all of these.

Additionally, the emergence of object oriented programming has resulted in an object oriented software development approach, where the system is viewed as a collection of classes, objects and includes the relationships among them. Organisations are increasingly utilising object oriented development in an effort to build systems that are more flexible and easier to maintain (Agarwal, De, Sinha and Tanniru, 2000).

All of the initial sites of the Eastern Caribbean NTO's and the Caribbean Tourism Organisation, from the mid 1990's, were fully outsourced. From the late 1990's, many of these organisations began to get a much better appreciation of the potential of a web presence. They all subsequently undertook to upgrade and re-launch their web sites and to incorporate Internet technologies into their operations, taking on a far greater responsibility in terms of development, implementation and maintenance (as previously outlined in Table 5.1 above).

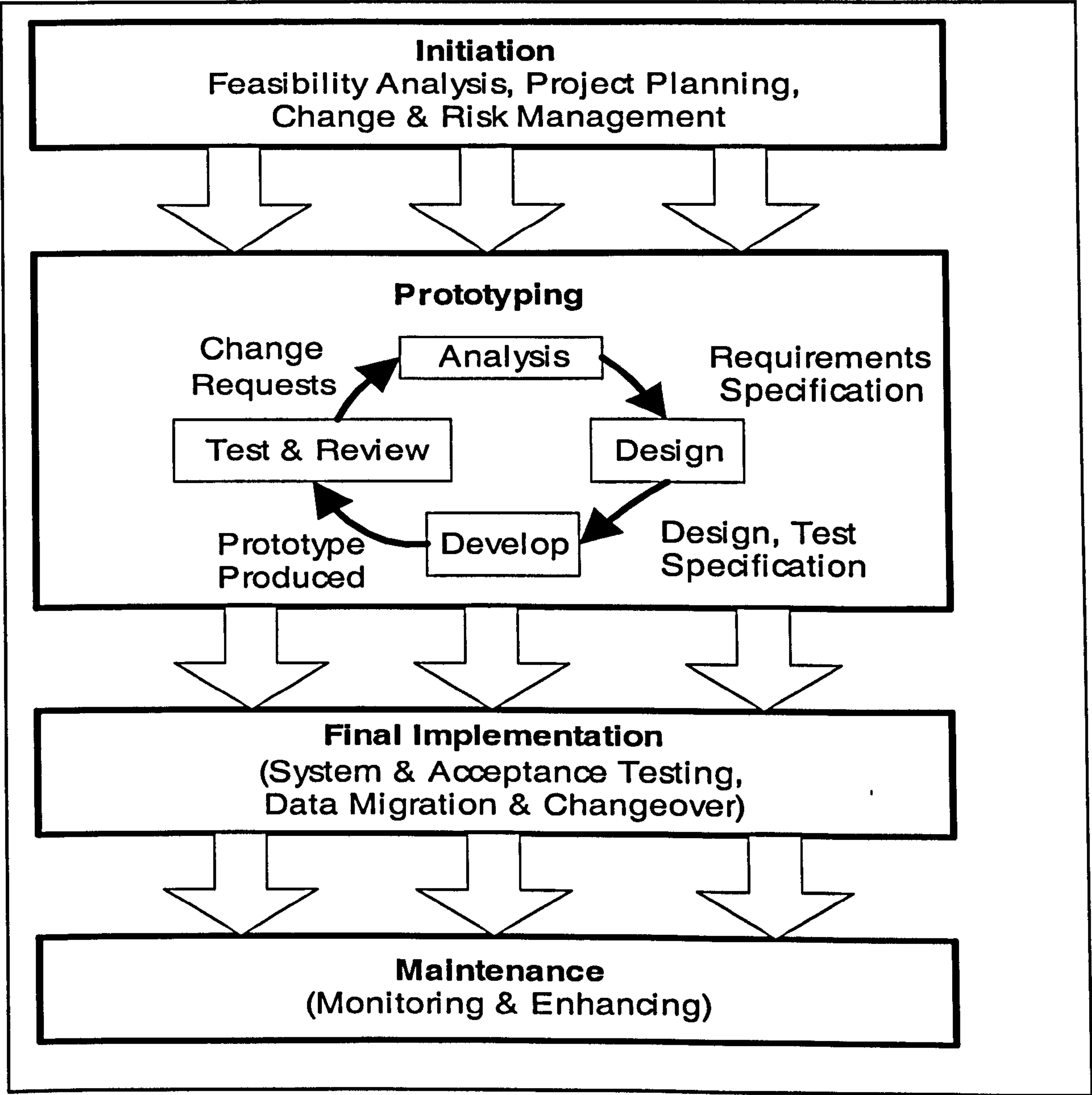
The dominant development approach adopted for the development of the upgraded NTO web sites was prototyping. Most of these systems development projects were also outsourced. However, there was a significant level of participation by in-house staff in all of the destination management organisations examined. The relationship with the external firms is based on a joint or collaborative development approach. Also, while the implementation effort was initially based on the traditional systems lifecycle, the developers, and the users in particular eventually recognised the need for a more iterative approach to the web-based systems development process. As indicated by one of the respondents at the CTO:

As we went along, we adjusted the requirements and concepts of what we wanted in the initial request for proposal. So you might not even recognise the site now, based on that proposal in the beginning, because as we went along we understood things better, which we really did not understand before, because we did not really have something to look at, to get a feel from, so we adjusted our vision as we went along. So the proposal was not written in stone, we did make adjustments ...changes came from the time we started seeing the *prototype* of the site, [and then] we gave feedback on our preferences (Clarke: Personal Interview)

Prototyping consists of building an experimental system for end users to evaluate. It is an iterative process where users suggest modifications before further prototypes and the final system are built (Chaffey, et al. 2003). The prototype is a working version of a system or part of a system, meant to serve as a preliminary model. It can be used to communicate the requirements and design of part or all of a system, between developers and their clients (Carter, 2002).

Based on reactions to the prototype, developers can get a clearer direction on the requirements of the system with respect to the design and functionality. Users also get an opportunity to review and assess their own requirements and both parties can confirm what is already included within the prototype and explore what should be added (Laudon and Laudon 2000; Carter, 2002). The role of prototyping in the systems development process is outlined in Figure 5.9 below:

Figure 5.9 Role of Prototyping in the Systems Development Process

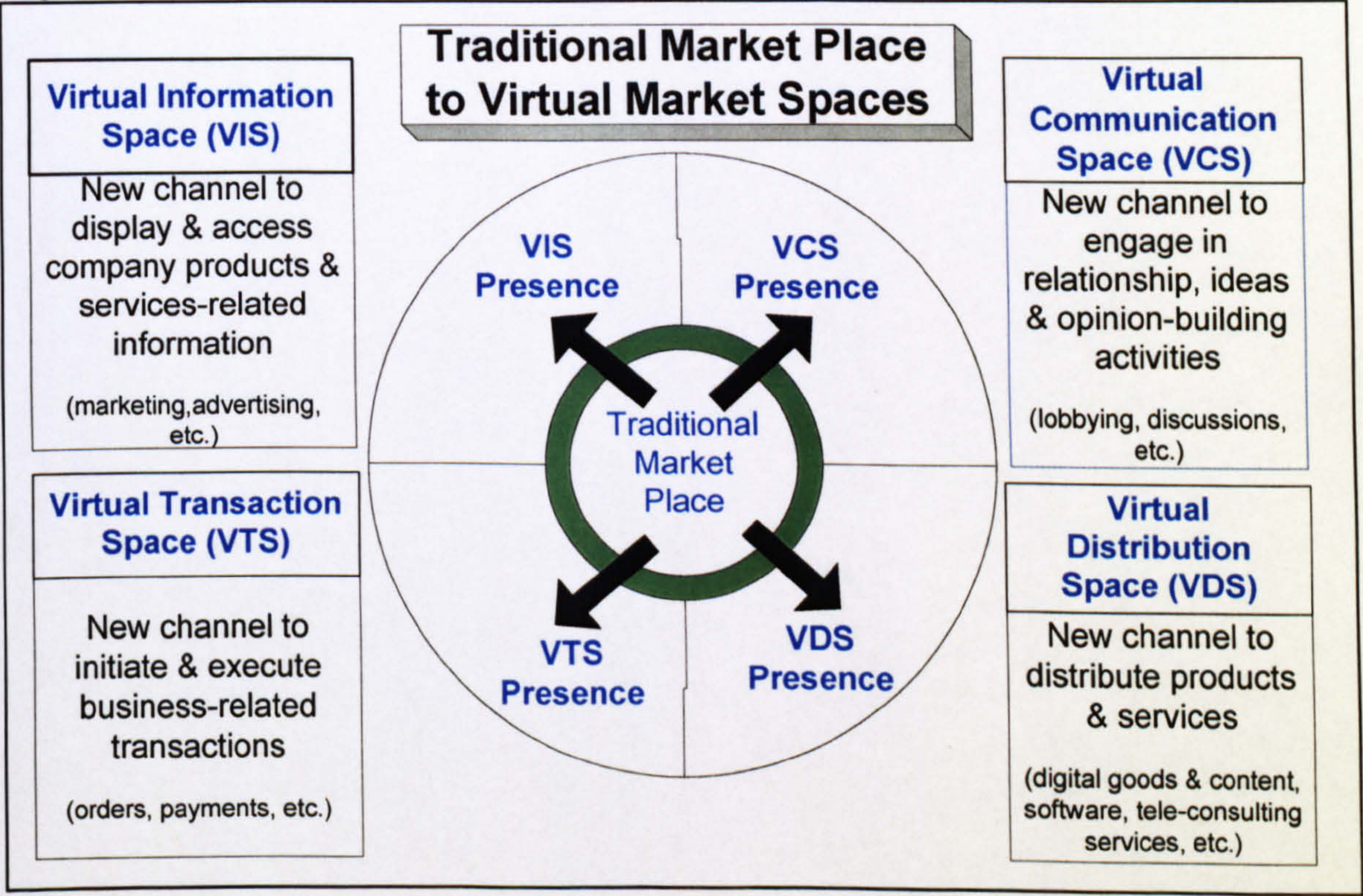


Source: Chaffey, et al. 2003

5.4 Internet Maturity: From the Market Place to Virtual Spaces

The level of sophistication or advancement in the use of Internet and web-based technologies by organisations has been assessed and analysed in a number of ways. (Turban, 2002; Burgess and Cooper, 2000; Angehrn, 1997; Ho, 1997; Quelch and Klein, 1996; Cappel and Myerscough, 1996). The underlying theme of all these frameworks and models is based on: (1) the level of interactivity and (2) a classification and characterisation of the nature of the objectives of the web site. As noted earlier, the Angehrn (1997) framework was chosen as the basis for the analysis of Internet maturity, due to the conceptual clarity, simplicity and validity of the model, illustrated in Figure 5.10 below:

Figure 5.10 ICDT Model: Analysis of Internet Maturity



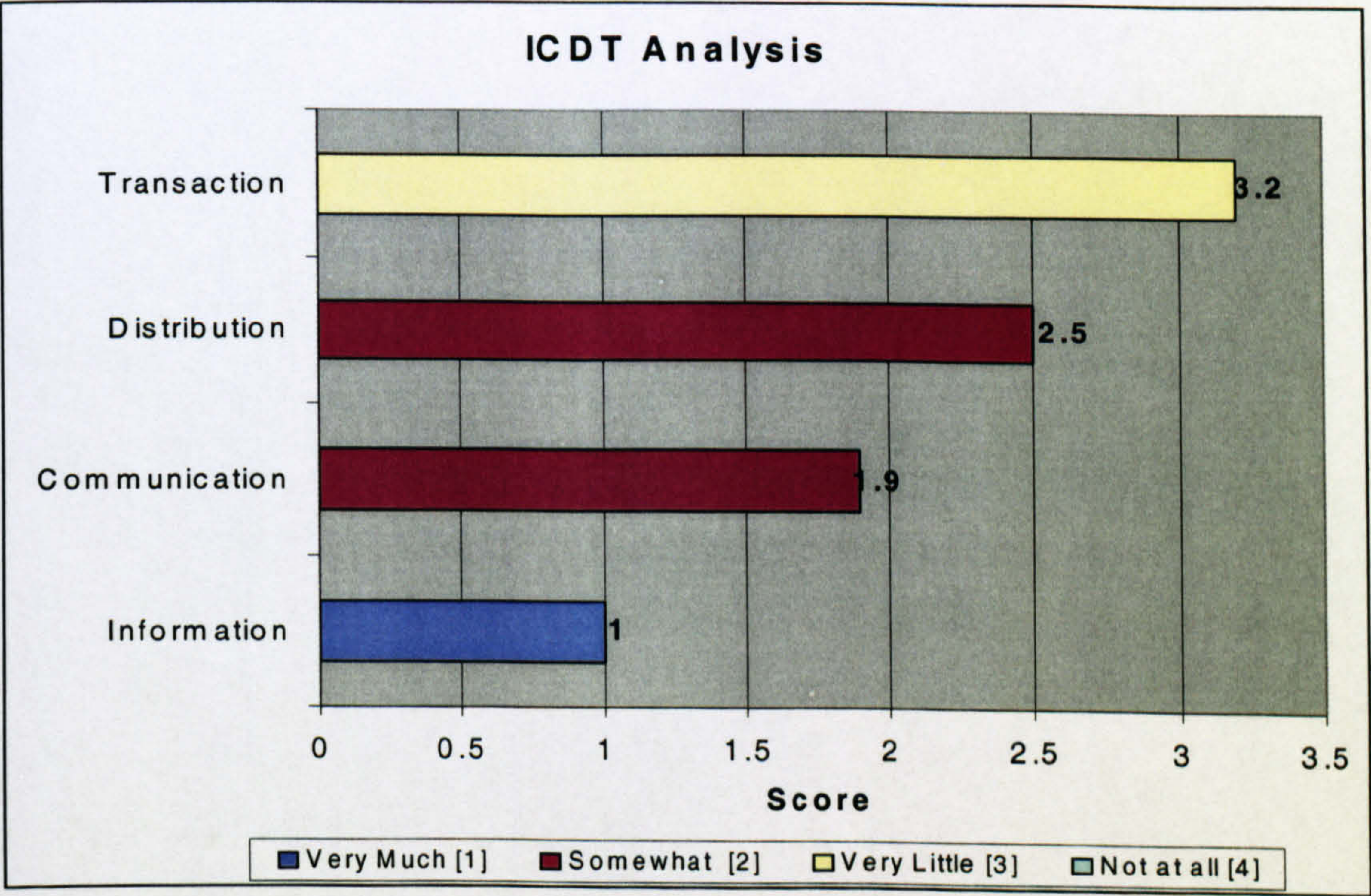
Source: Angehrn (1997)

In the above framework, firms are categorised in a ‘virtual space’, based on the nature of their involvement in electronic commerce activities. Four (4) spaces are identified: a virtual information space, a virtual communication space, a virtual distribution space and a virtual

transaction space.¹⁶ The primary data source for the analysis of Internet maturity in this study was the responses to eleven items on the survey instrument, covering the four dimensions of the internet use addressed in the Angehrn model (Appendix 4: Question 1). The findings were also corroborated by secondary data analysis, entailing a review by the author of the NTO web sites, in terms of the extent to which they reflected the use of the information, communication, transaction and distribution ‘virtual spaces’.

The instrument was coded on the scale of 1-4, representing ‘very much’ to ‘not at all’ respectively, with regard to the items in the instrument¹⁷. It was found that the information space is the most widely used across all of the case study sites, with an average score of 1, whereas the transactional space was the least exploited. (Figure 5.11 below provides an indication of the extent of usage, with respect to the ‘virtual spaces’ – ICDT)

Figure 5.11 Exploitation of Virtual Spaces



¹⁶ Hence the acronym ICDT - corresponding the primary activities undertaken by the firm in the use of web technologies: Information, Communication, Distribution or Transaction

5.4.1 Virtual Information Space

The primary feature that has propelled tourism industry into the forefront of electronic commerce growth patterns is that at the point of sale, tourism is, in essence, an information product (UNCTAD, 2002; WTO, 2001). Customers initially obtain product and travel *information* from various sources, then provide *information* about their interests and preferences, submit *information* about payment arrangements or credit card details, and in return receive *information*, with respect to details of the required travel, lodging and other services. It has been argued that, increasingly, the basis of competition is level of confidence inspired in the customer directly through the *quality of the information* provided (Werthner and Klein, 1999; WTO, 2001).

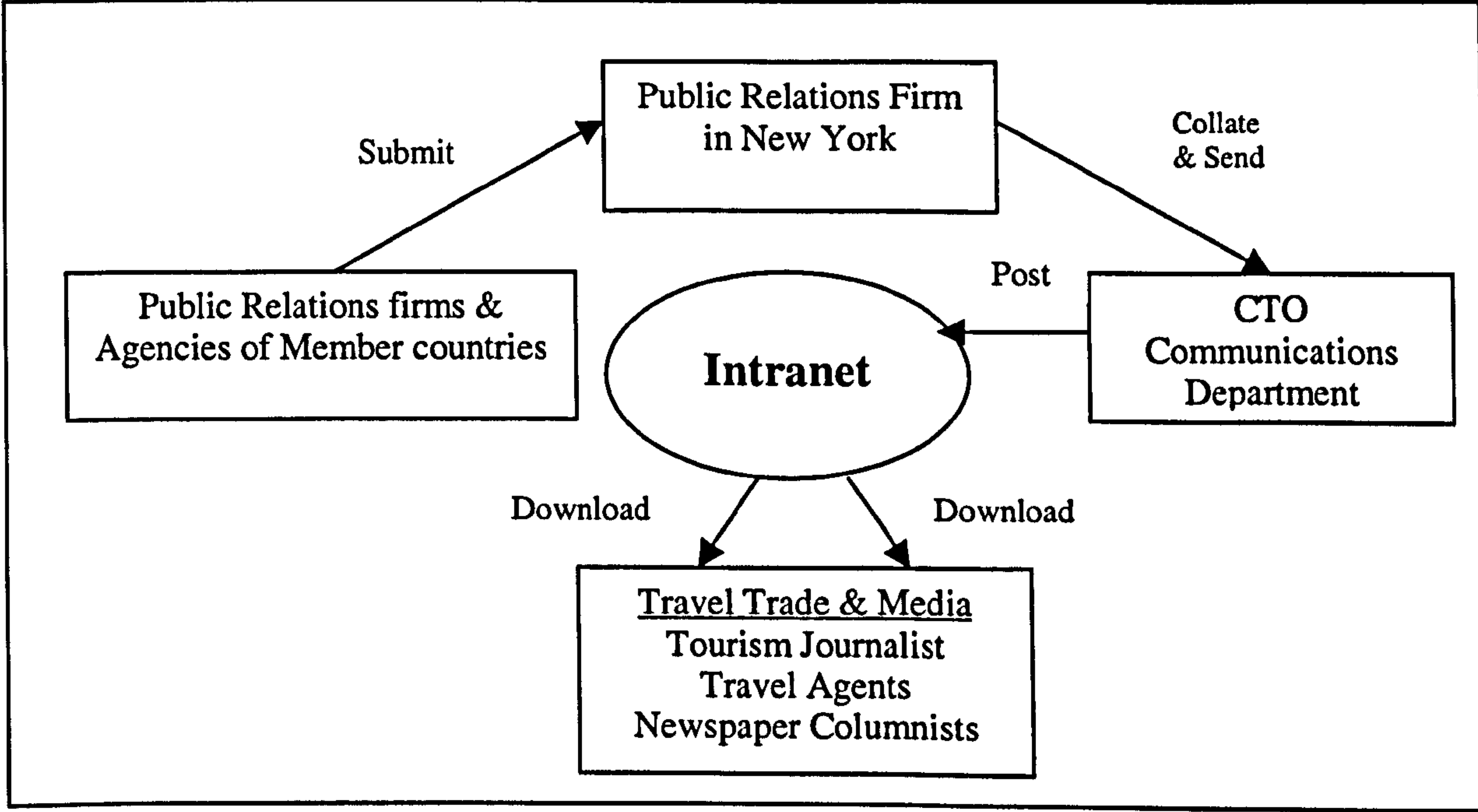
For the most part, National Tourist Offices in the Eastern Caribbean, are presently most dominant in the 'Information space'. The score of (1), in Figure 5.11 above, indicates that the provision of information is the primary focus of NTO web sites. There is still much progress, however, that can be made in the exploitation of the Internet as a channel to provide information to prospective visitors. One of the striking features, for example is the limited use of the multimedia capabilities of the World Wide Web. There are virtually no attempts to leverage the fact that the Caribbean brand is strongly associated with a wide range of musical forms, in particular reggae and calypso.

For example, on the Virgin Holidays web site, a leading tour operator in the United Kingdom, there is an option to listen to Caribbean music while browsing the site, to 'get into the mood'. The use of video clips and animation is very limited on all of the Eastern Caribbean NTO sites. Overall, there is a clear deficiency in the media formats used in the provision of information. This is discussed further in terms of the existence of reality supporting and rationality imposing applications in Section 6.1, below.

¹⁷ Appendix 4: Question 1: Items 1-4 were aggregated for the 'Information' score; items 5-8 for 'Communication'; 9-10 for Transaction and 11 for Distribution. Coded: Very much = 1; Somewhat = 2; Very Little = 3; Not at all = 4

The role of the CTO Extranet/Intranet was pivotal in the immediate post September 11, 2001 period, as a means of disseminating information to all of the stakeholders. The developers were still working on the site at that time, but due to the development approach being used, a working prototype was ready for adoption, months ahead of the scheduled release of the final version. As portrayed in Figure 5.12 below, the flow of information was well defined and expedited, in light of the volume and frequency, through the use of the Intranet and Internet based email and regular postings to the CTO Intranet/Extranet site:

Figure 5.12 Extranet/Intranet Based Information Flow: Post September 11, 2001:



The Corporate Communications Officer, in a personal interview conducted in January, 2002, indicated that the organisation “...could not have acted as a clearing house for information”, on the scale that was required, without the Intranet. It’s use is limited, however, to the information space:

The site mainly is being used by members to access information...information gathering and information distribution is the number one use of the site right now. The *networking* [communication] side of it is not functioning the way we wanted it to, the facility is there, but it is not being used the way that we thought it would be used (Coward: Personal Interview)

Approximately, one year later, in December, 2002, in a new capacity as Intranet Administrator, her comments in this regard, were quite similar:

The tourism statistics are the most used on this site. The majority of the members are the technocrats who need the information, in addition to a fair number of media representatives and travel agents. Essentially the use is driven by the categories of people who require the information (Coward: Personal Interview).

The 'networking' aspect of the Extranet refers to the creation of online discussion forums for ongoing exchange for specific categories of users, as well as virtual groups set up to discuss and plan specific events. Participation has been very limited and persons communicate via email, as opposed to the on-line discussion forums, that are available.

While there is limited use of the Extranet of the Caribbean Tourism Organisation, at the senior management levels, there are some encouraging signs:

It [Intranet] has already had a tremendous impact on things that many people may not be aware of...it is a service that Directors of Tourism like a great deal, to get information of what is happening throughout the Industry without having to spend three-quarters of a day on the Internet. So market information shared, also research, statistical data, reports and strategic plans...this is of tremendous utility to the senior management personnel¹⁸ who actually use it (Sobers: Personal Interview).

Despite the extensive use of the Internet for information provision, there are still many challenges to be overcome in the virtual information space. This was clearly and consistently evident in the various interviews. For example, one respondent indicated, with a measure of frustration that:

There is so much more information that we could be giving them that we are not. We are not updating the Extranet with new information...information should be put in on a more regular basis (Fowell: Personal Interview).

¹⁸ 17 of the 34 Directors of Tourism in the CTO member states are registered users of the Extranet/Intranet Site - CTONet

According to another:

Information goes out to them via email, but it's not posted there [on the Extranet], so that they could read at their leisure (Louis: Personal Interview).

Yet another argued that:

If she [the IT Manager] had more help we could do it [updating the web site] tomorrow rather than next week, it is going to be done, but there is invariably a delay due to staffing constraints...we get bogged down and forget that the Web site is there and that there is content that needs to be managed (Ramdeen-Joseph: Personal Interview).

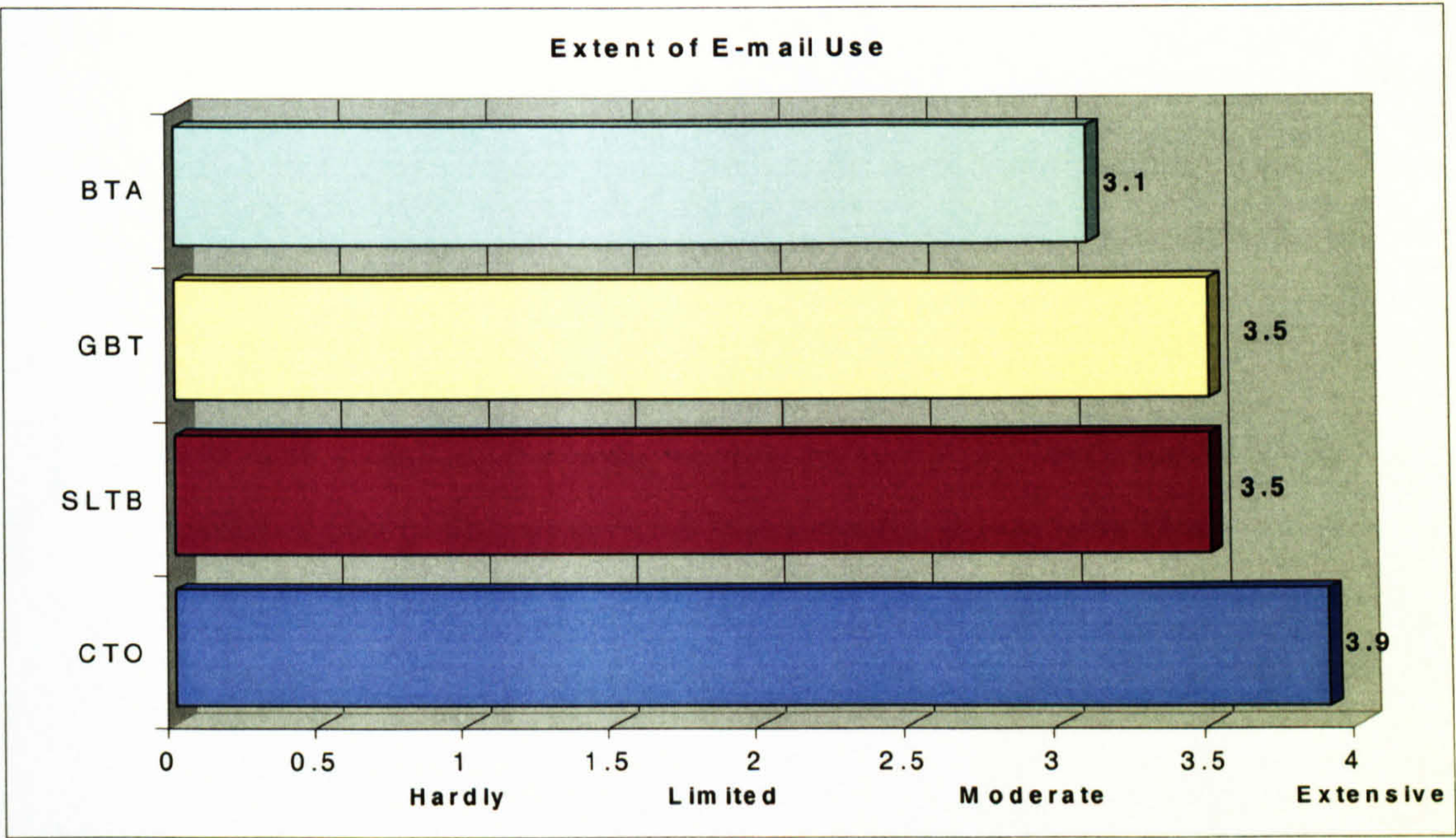
5.4.2 Virtual Communication Space

The use of the Internet as a means of communication was also relatively significant, with a score of 1.9 (or 'somewhat important' - Figure 5.12 above). Electronic mail is the primary mode of online communication used. As alluded to earlier, more sophisticated electronic methods (online interactive forums and chat groups, real-time, instant-messaging etc.) have not been widely adopted or diffused throughout the organizations under investigation.

While these facilities are available on the St. Lucia Tourist Board Extranet, and to a greater degree, on the Caribbean Tourism Organisation Intranet/Extranet, usage is very limited. Overall usage of email, on the other hand is quite significant. Based on data collected via the survey instrument administered (Appendix 4: Question 11), the average score for each case study site was computed with respect to the extent of email use. Figure 5.13 below, indicated the findings in this regard¹⁹:

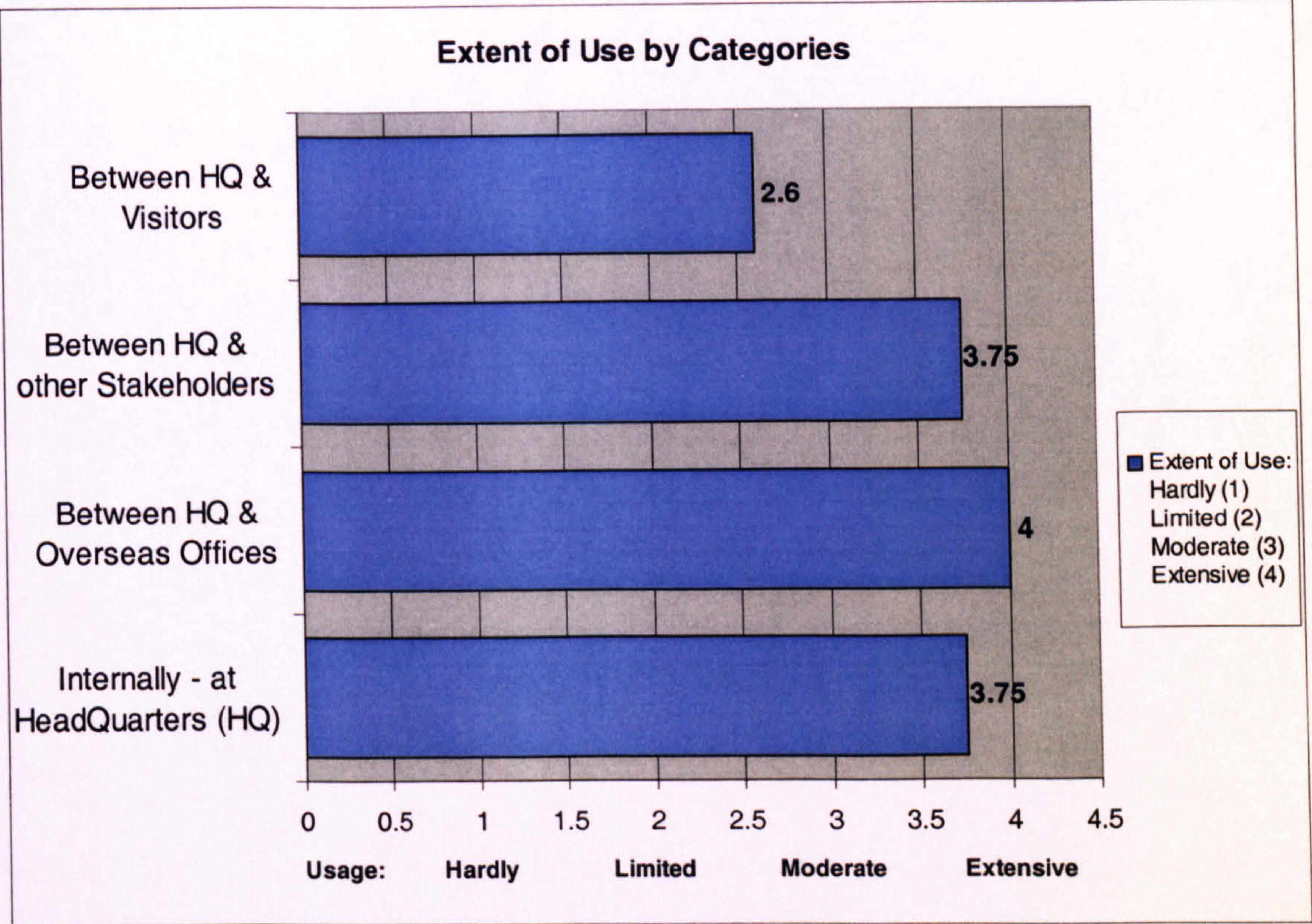
¹⁹ Extensive Use = 4; Moderate Use = 3; Limited Use = 2; Hardly Used at all = 1
BTA: Barbados Tourism Authority; GBT: Grenada Tourist Board;
SLTB: St. Lucia Tourist Board; CTO: Caribbean Tourism Organisation

Figure 5.13 Extent of E-mail Usage



Further analysis of email usage patterns in the case study sites was done by examining the scores for the various categories of email usage on the survey question (Appendix 4: Question 11). The primary finding in this regard is that the exploitation of the ‘virtual communication space’ (via email use) by the Destination Management Organisations seems to be business to business (B2B) oriented, as opposed to business to consumer (B2C). This is illustrated in Figure 5.14 below by the relatively low score of 2.6, for email ‘between DMO headquarters (HQ) and visitors’ and the higher scores of 3.75 to 4 (moderate to extensive), for email use between HQ and other stakeholders, internally and overseas offices:

Figure 5.14 Email Use by Categories



The pattern of email use seems to support the idea of the NTO sites serving only as an initial point of contact for prospective visitors, focusing on the provision of generic destination information to meet the needs of prospective visitors. The primary orientation of the NTO, in this regard, is that of providing a referral function, directing enquires to the specific suppliers of tourism products and services locally.

5.4.3 Virtual Transaction Space

The transaction space with a score of 3.2 (indicated in Figure 5.12 above - ‘very little’), was the least exploited space. The qualitative data from the interviews conducted provides supporting evidence with respect to the limited use of the transaction space and the primary reasons for this. The following statements reflect the views of most of the respondents on this issue:

On the issue of booking, that is where the deficiency is on most of our country sites and certainly on ours (Sobers: Personal Interview).

The fact that we *do not have control over the product* is the main issue from our perspective... from the (national) destination point of view, it may be a bit easier, but it is still difficult to monitor which rooms are available, at what rate (Clarke: Personal Interview).

For a DMO to take control over a product that it has no control, I think is *risky business*, especially when the *standards of the product vary* and your site can be blamed for a bad experience (Clarke: Personal Interview).

Our main concern is *the liability issue*, because we have little, control over the quality of the product that is being sold...to ensure consistency and value for money. Due to the potential liability, given our minuscule budget and the wide variation in terms of local tourism product suppliers...we have not gone into online booking (Louis: Personal Interview).

There are just a lot of complications with the e-commerce aspect from our end, locally and it hasn't worked out [attempted for the sale of tickets for the 2002 St. Lucia Jazz Festival], so we have been concentrating more on referrals (Fowell: Personal Interview).

There are a lot of policy issues, legal issues and technical issues that have to be sorted out...as well as getting people to maintain their inventory (Hossle: Personal Interview).

The primary concerns which arise in the consideration of the use of the virtual transaction space by National Tourist Office web sites include: quality and standards, legal liability, inventory management and cost. Caribbean destinations are traditionally dependent on powerful intermediaries in their major source markets with respect to booking arrangements and the commercial aspect of the tourism business. This has been accentuated by a high level of vertical integration in the European and UK markets, which served to further concentrate the bargaining power of the Tour Operators and the Travel Agents. Attempting to bypass tour operators and travel agents may alienate a vital and powerful player in the value chain. Thus, there is a compelling argument against explicit strategies based on 'disintermediation', as the influence of large tour operators can be leveraged to damage destinations that are perceived to be competing against the traditional intermediaries in the Caribbean tourism supply chain.

As Eastern Caribbean destinations move towards the adoption of web-based systems and e-business models that entail a direct transactional element, they are indeed mindful of the above concerns:

The British Virgin Islands was traditionally a travel agent destination, even though our online reservations are growing, we wanted to make sure that we did not disrupt the travel agent relationships, so we found a company that has a travel agent component to their web site and that is World Res. ... they have a special section for destinations and a special section for travel agents. That was very important to us...so we did not choose Expedia, because we cannot afford to isolate the travel agent community (Malone: Personal Interview)

The above view was not universal, however, with a somewhat contrary view being expressed by the E-Business Manager of the Barbados Tourism Authority (BTA):

The traditional distribution channels may be alienated, but we want to complement and enhance what these channels do (Walton: Personal Interview)

Indeed, the concept that the successful exploitation of the web-based technologies provides the opportunity to 'level the playing field' also has strong appeal for all of the NTO's in the Eastern Caribbean. Another critical factor, in the context of small island developing states, in the adoption of any online booking arrangement, is the requirements of the smaller properties. These establishments account for a substantial segment of the accommodation sector and are, for the most part locally owned. These establishments typically have very few rooms and are not able to dedicate their entire inventory to an online booking facility.

As indicated by Malone:

We wanted to make sure that we had a booking engine that did not exclude small properties that can't make allocations [of rooms]. Expedia needs allocations. With World Res the property owner himself can go on to the system and put one room on the Internet site. When that one room sells he can then put another one. So he retains total control of his inventory and that was important to us (Malone: Personal Interview).

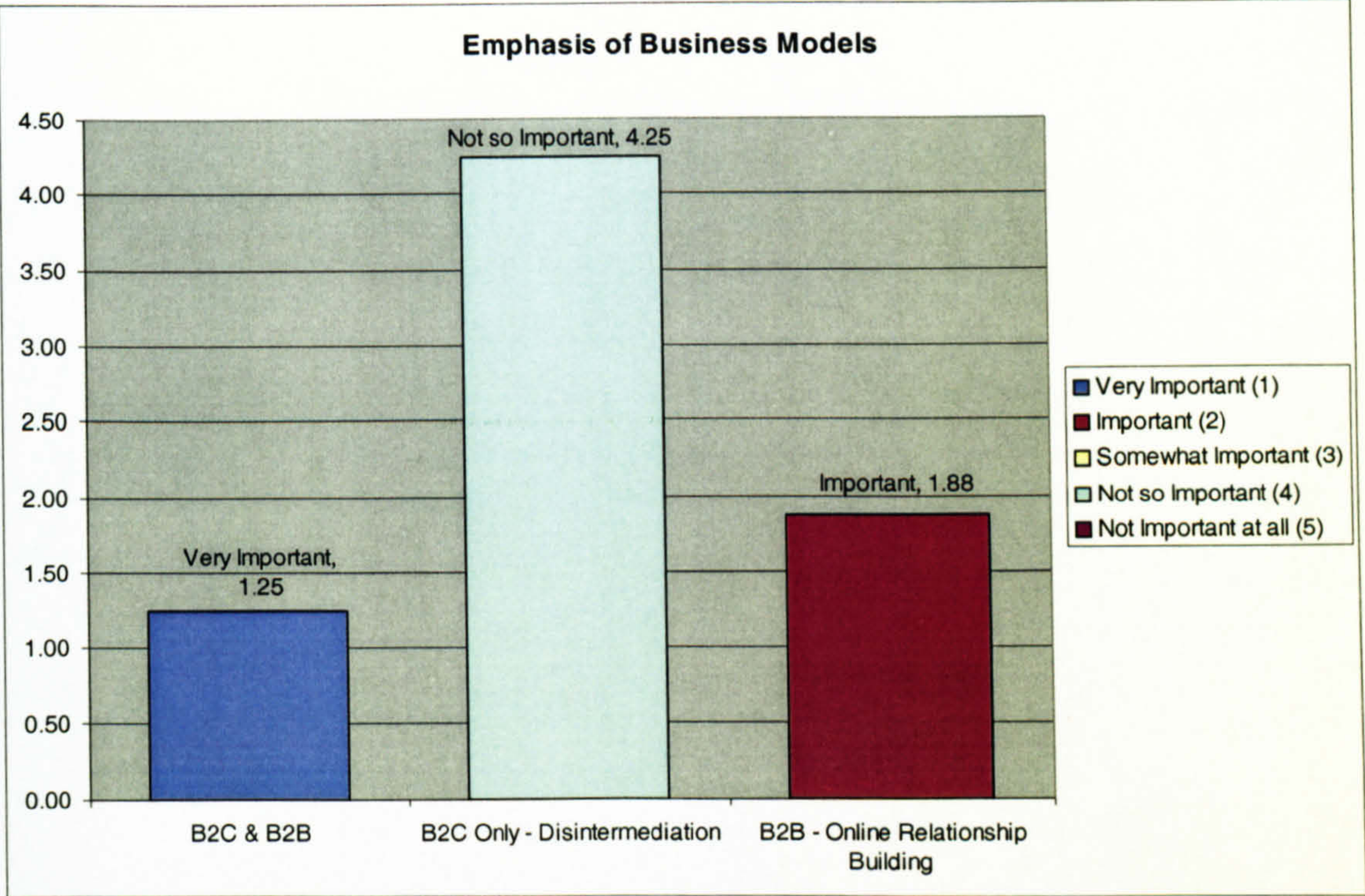
The option taken by the St. Lucia Tourist Board (SLTB) was a private-public sector partnership. The gateway concept is also used so that users have the option of following a

link to the hotel web site and booking directly with the accommodation provider or to use a private sector booking engine on the official SLTB site.

Responses to the question on the mix between a business to consumer (B2C) approach and a business to business (B2B) strategy indicated that there was little interest in eliminating the 'middle man', but a combined B2C and B2B approach was regarded as most desirable (Appendix 4: Question 6). The use of the Internet to 'target prospective visitors directly, *whilst working with* traditional intermediaries' was classified as a combined B2C and B2B approach and received an average score of 1.25 (in the range of 'very important' =1).

The use of the Internet to target prospective visitors directly, *by-passing* traditional intermediaries' was classified as a B2C only - disintermediation approach, and received an average score of 4.25 (in the range of 'not so important' = 4). Building on-line relationships with other stakeholders in the tourism value chain, categorised as B2B, was considered to be important, with a score of 1.88 ('important' = 2). Figure 5.15 below illustrates the above findings with respect to business to consumer (B2C) and business to business (B2B) approaches.

Figure 5.15 Business Models: Business-Business and Business-Consumer



5.4.4 Virtual Distribution Space

Exploiting the virtual distribution space (VDS) entails the use of the Internet as a distribution channel for products or services. Some of the sectors that have been at the forefront in the use of this space are: music, news, weather, education and gaming. The ability to digitise specific products and services, does not necessarily translate into the successful exploitation of the virtual distribution space, as evidenced by the very sluggish growth in the online books segment. Affordable broad band access is another key factor in terms of the future growth of this aspect of online services.

In the case of the tourism sector, the use of the distribution space entails the delivery of auxiliary products and services, associated with the actual product on sale (Angehrn, 1997; WTO, 2001) Online brochures, e-postcards, screensavers, vacation and wedding planners are some of the specific areas that are being distributed in the context of the tourism industry. Internally, the distribution space - Intranets and Extranets - can be used to deliver

services to employees, including training, company policies, software packages and upgrades.

The score for the distribution space was 2.5 (Figure 5.11 above), the mid point between 'somewhat' - (2) and 'very little' - (3). The use of this virtual space reflects largely the distribution of online brochures and vacation planners, and in the case of the St. Lucia Tourist Board, e-postcards and screen savers. While not very significant at this time, this area (the virtual distribution space) offers tremendous potential to the tourism sector in the medium to long term.

5.5 E-Business Trends: Outcomes and Impact

5.5.1 Level of Organisational Change

The introduction of information and communications technologies (ICT) into organisations increasingly changes jobs, skill needs, work and relationships (Scott-Morton, 1991; Davenport, 1993, O'Brien, 2001). Implementing web-based systems and Internet technologies is but part of a larger process of managing major changes in business processes, organisational structures, managerial roles, and employee work assignments (O'Brien, 2001).

It has been recognised that the early exploitation of destination management systems have been through self-contained systems (Pollock, 1997). These systems were designed to support specific areas of operations, often acquired on a piecemeal or ad hoc basis, by different departments, and operated independently of each other (Benckendorff and Black, 1999; WTO, 1999; Cooper and Lewis, 2001). The corresponding level of organisational transformation, arising out of the implementation of IT in this manner, tends to be quite minimal (Holtham, 2000; Venkatraman, 1994).

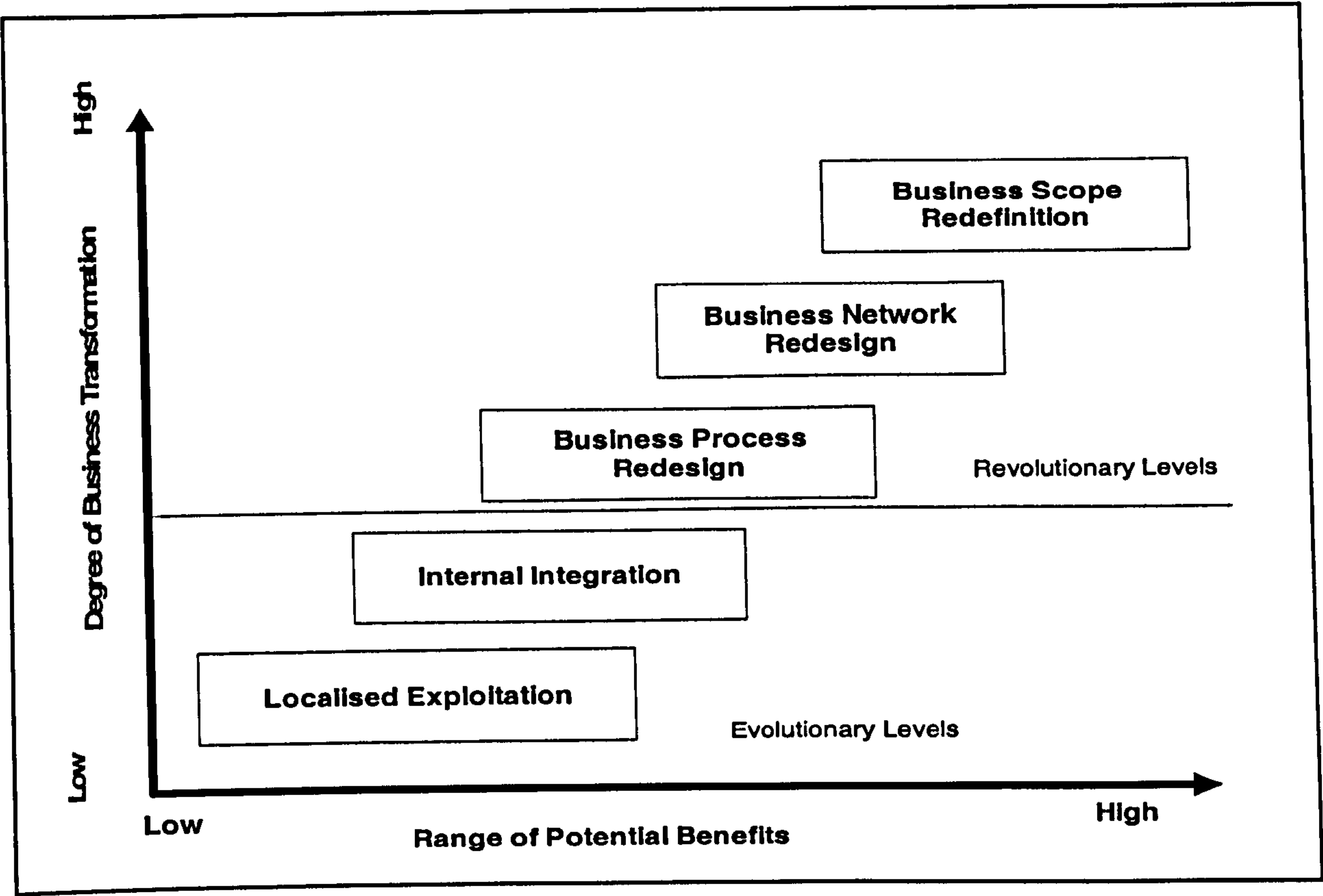
The Venkatraman five levels of IT-enabled organisational transformation framework (1994) was utilised for purposes of operationalising and categorising the construct ‘web-enabled organisational change’ in the destination management organisations investigated. The model proposes five levels of organisational change, from localised exploitation to business scope redefinition, outlined in Table 5.9 and illustrated in Figure 5.16, respectively, below.

Table 5.9 Levels of Transformation and Corresponding Characteristics

Levels of Transformation	Distinctive Characteristics
Localized Exploitation	Leveraging of IT to redesign focused, high-value areas
Internal Integration	Use of IT capability to create a seamless organizational process, encompassing both technical interconnectivity and organizational interdependence
Business Process Redesign	Redesigning key processes to derive organizational capabilities for competing in the future
Business Network Redesign	Redesign of the nature of exchange among participants in a business network for the enhanced provision of products and services, coordination, control and to learn from the extended network
Business Scope Redefinition	Redefining the corporate scope, adjustment of internal activities, new partnerships and alliances along the value chain

Source: Venkatraman (1994)

Figure 5.16 Levels of IT-enabled Transformation



Source: Venkatraman (1994)

Localised Exploitation entails the leveraging of an IT function or system, to redesign focused, high-value areas of business operations. Deployment of isolated systems (for example, toll-free customer service and internal electronic mail system) would typically be decentralized to functional, operational managers (Venkatraman, 1994).

For purposes of this study, and the tourism sector as a whole, this would entail, for example, simply the use of a web site for marketing a destination. A simple, static web site with limited interactivity and functionality, exclusively for disseminating information about the destination, would be at this level of IT-enabled transformation – localised exploitation. This level of change is characterized by minimal changes to business processes, and essentially the systems are no different from standard business practice in the marketplace at the time.

If accompanied by corresponding changes in internal business processes, this level of IT transformation can, however result in significant advantages (Davenport, 1993; Venkatraman, 1994). For this to materialize, activities should be motivated by a focus on differentiation and strategic advantage, for example, superior customer service, rather than efficiency alone. Management must seek to benchmark exploitation and results against 'best practice' to achieve competitive differentiation.

Data on the levels of IT-enabled change in the case studies under investigation was collected primarily through semi-structured interviews (Appendix 2: Question 20) and the survey instrument (Appendix 4: Question 9). Additionally, information was collected during the course of many unstructured interviews with public sector and industry personnel in the tourism industry. In terms of the initial web sites launched by the Eastern Caribbean NTO's, from 1996, there is little advancement past the level of localised exploitation:

It [the CTO Web Site) was, as with most of the OECS Internet sites, really just one step forward from the work that we did off-line (Sobers: Personal Interview).

For the most part Eastern Caribbean NTO's have limited their online initiatives to the areas of market research, market communication, public relations and sales promotion. Extending the tasks of the National Tourism Organisations into emerging areas such as online brand policy management, information and product management as well as direct distribution and online sales, would no doubt require a considerable restructuring effort. At the level of business scope redefinition it is argued that the NTO could develop into a kind of 'incoming tour operator', as the marketing of destination-oriented products is given greater prominence in the activities of the various entities (WTO, 1999).

The level of IT-enabled transformation is largely at the level of localised exploitation and to a lesser extent internal integration. There remains clear potential for higher levels of change, given the technological platforms in place and the level of awareness, internally, and the significant developments in the global industry.

Increasingly, DMO's are expected to exhibit levels of change, beyond the evolutionary levels – localised exploitation and internal integration. Internal Integration is achieved when a firm is able to leverage IT capability to create a seamless organizational process which reflects both technical interconnectivity, which is interconnectivity and interoperability of the different systems and applications through a common IT platform. As well as business process interdependence, which refers to the interdependence of organizational roles and responsibilities across distinct functional lines. When this occurs full internal integration is considered to have taken place (Venkatraman, 1994).

The evidence suggests that the St. Lucia Tourist Board is at the Internal Integration stage. The initial leveraging of the web site, initially for marketing purposes, has resulted in measures taken towards technical interconnectivity as well as displaying characteristics of business process interdependence. Commenting on these two primary indicators of this level of organisational change, Venkatraman (1994) notes that the lack of attention to creating interdependent business processes weakens the organisation's ability to leverage a seamless and interoperable technical system. Most organisations tend to concentrate on advancing the latter, but fail to derive the full benefits of investments in technological infrastructure.

This is reflected by the following statement by the Information Systems Manager at the St. Lucia Tourist Board:

The major change [since the launch of the upgrade site] was the management of the site, which forced a changed in the management of internal information systems, there was a change in responsibilities and the way information flows within the organization...responsibilities have been assigned to various members of staff as regards content management and other tasks, across different departments (Louis: Personal Interview).

There is clearly some deficiency, however, in the level of integration achieved, as noted by the Deputy Director for Marketing:

There has been some level of synergy between the offline and online activities that the SLTB is doing, the efforts are sort of being integrated

in that regard. But I think that it needs to come through the whole organisation, from top to bottom...and that is definitely a challenge, it is a challenge from doing things in a different way (Fowell: Personal Interview).

In the case of the Caribbean Tourism Organisation, internal integration does not appear to have been achieved, with the Director for Information Management and Research characterising the web-based initiatives rather frankly as:

A stand-alone project...stand-alone simply because I didn't want the challenges, and even now, of integrating IT with the overall thing, the marketing strategy of the countries, etc....it doesn't sound very flattering, but I would say from CTO and from the member countries this applies (Sobers: Personal Interview).

Another respondent at the same organisation expresses a similar view on the question of the extent of internal integration achieved:

Top management, while acknowledging that the Internet is necessary, does not fully grasp how it should be integrated into current programmes (Clarke: Personal Interview).

While the Barbados Tourism Authority has not fully launched web-based systems within the organisation, the initial efforts towards conceptualisation and planning seem to be quite integrated:

There is close collaboration between the Research, IT and Marketing sections...we see the web site as an IT tool for use of the marketing department, not an IT solution that the marketing department will use from time to time, because this is a marketing organization (Walton: Personal Interview).

Business Process Redesign entails the reengineering of key processes to derive the organizational capabilities for competing in the future, as opposed to simply rectifying current weaknesses. The use of IT as an enabler for future organizational capability also characterises this level of IT enabled change as benefits from IT functionality cannot fully be realized when superimposed on the current business processes, however integrated they may be (Davenport, 1993).

Very little evidence of this level of transformation was seen in any of the case studies under investigation, as suggested by the above discussion on the localised exploitation and internal integration. The limited nature of the IT-enabled changes is also illustrated by the following statements:

In terms of using IT to change work processes: There have been small things, the big projects that we have planned have not really happened, for example real electronic data collection...slowly they say to me, Sam, slowly (Hossle: Personal Interview).

The difficulty lies in different levels of understanding and appreciation for technology within the organisation...this is needed to enable a greater degree of transformation, to take it to the next level...but not everyone is ready for that higher level of change (Fowell: Personal Interview).

The fourth level of IT-enabled transformation described by Venkatraman (1994), business network redesign, focuses on the redesign of the nature of exchange among participants in a business network through effective deployment of IT capabilities. It involves exploiting the IT function for the purposes of learning from the extended network, as well as coordination and control. The elimination of activities where the focal organization may not have the required level of competence, the exploration and exploitation of sources of competence in the larger business network (beyond what is available within the focal organization), are also key elements of this stage.

The potential benefits are that each partner can leverage the competencies in the extended network without resorting to the costly options of vertical integration. Restructuring the relationships in the extended business network to leverage a broader array of competencies will generally deliver superior products and services.

The distinct potential for business network redesign is clearly illustrated in the following statement:

IT offers (DMO's) the opportunity to build fruitful and interactive relationships with their partners beyond the constraints of time and physical location. It expands the potential of partnerships with various businesses while maintaining these partnerships becomes less costly. The challenge...is how they can take advantage of IT to extend their influence and recast their external relationships and how they can gain

competitive power by working closely with each other instead of against each other.’ (Gretzel, Yuan and Fresenmaier, 2000:152)

Some of this change is evident in the operations of the SLTB, CTO and the BVI, in terms of the partnership arrangements with private booking engines on the NTO web sites.

The fifth level, business scope redefinition, deals with the role IT can play in influencing business scope and the logic of business relationships within the extended business network and essentially redefining corporate scope, enabled and facilitated by IT functionality. Virtually no evidence of this level of change was present in any of the destination management organisations studied.

5.5.2 Visitor Survey Feedback

Secondary data analysis conducted by the author on the Visitor Exit Survey data for Barbados, for the period 1999-2002, clearly reveals the increasing importance of the Internet as a source of information in decisions to visit the island. Over a period of less than three years, from the first quarter of 1999, to the third quarter of 2002, there was approximately a one hundred percent (100%) increase in persons who indicated that the Internet was an ‘important’²⁰ source of information in deciding to visit Barbados, as outlined in Table 5.10 and illustrated in Figures 5.17 and 5.18 below: (Base Period: Quarter 1, 1999).

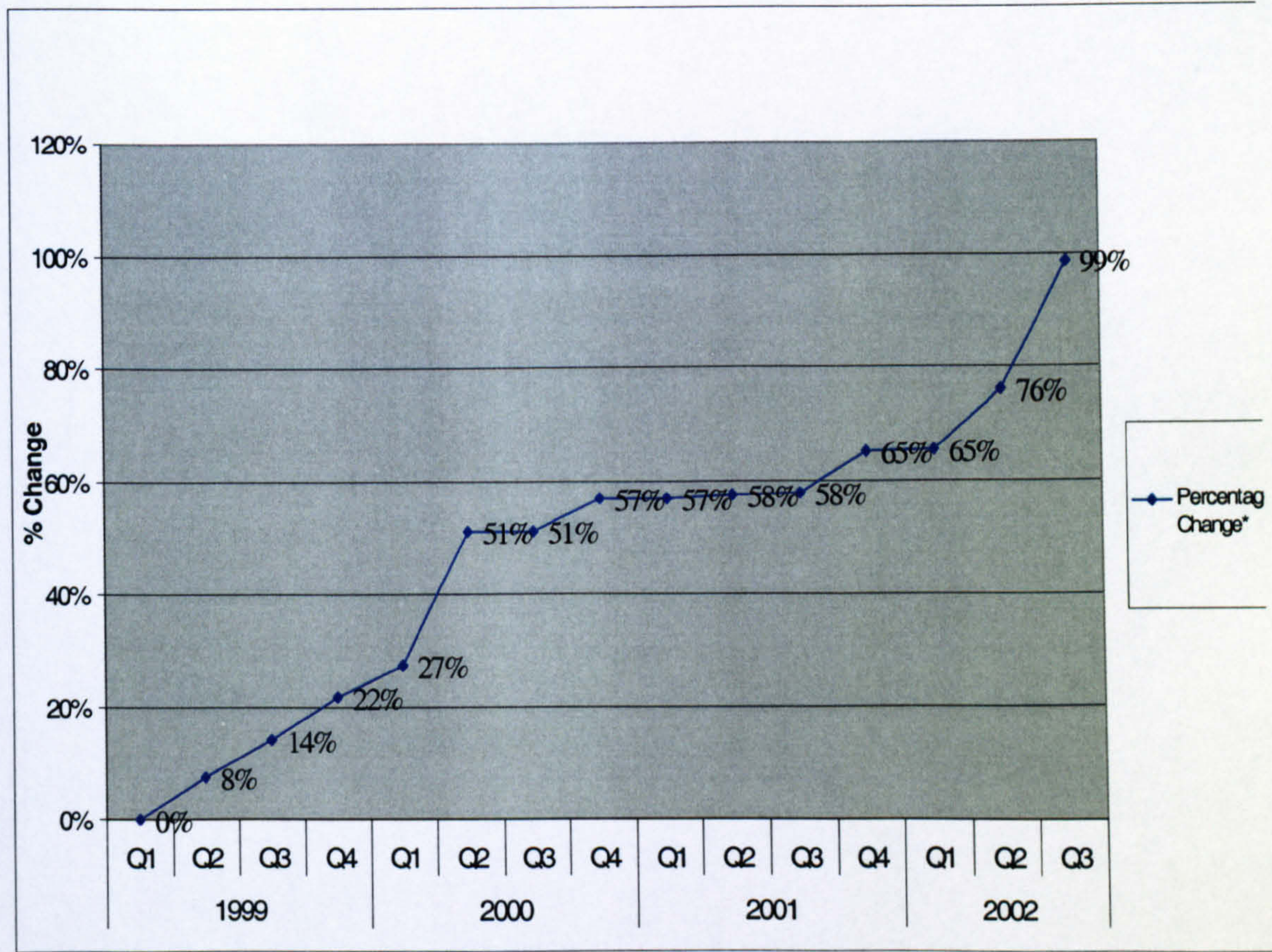
Table 5.10 Importance of the Internet as a Source of Information

Percentage of Persons citing the Internet as an Important Source of Information	Quarter 1: 1999	Quarter 3: 2002	Percentage Change
Somewhat	13.9%	18.6%	34%
Important	12.1%	25.2%	108%
Very Important	9.2%	26.1%	184%
Total	35.1%	69.9%	99%

Source: Barbados Tourism Authority (2003)

²⁰ A five point scale was used in the Survey Instrument: Not at all Important, Little Importance, Somewhat Important, Important and Very Important. The latter three are used here as the aggregator/overall indicator of ‘Importance’ (i.e. a combination of Somewhat Important, Important and Very Important).

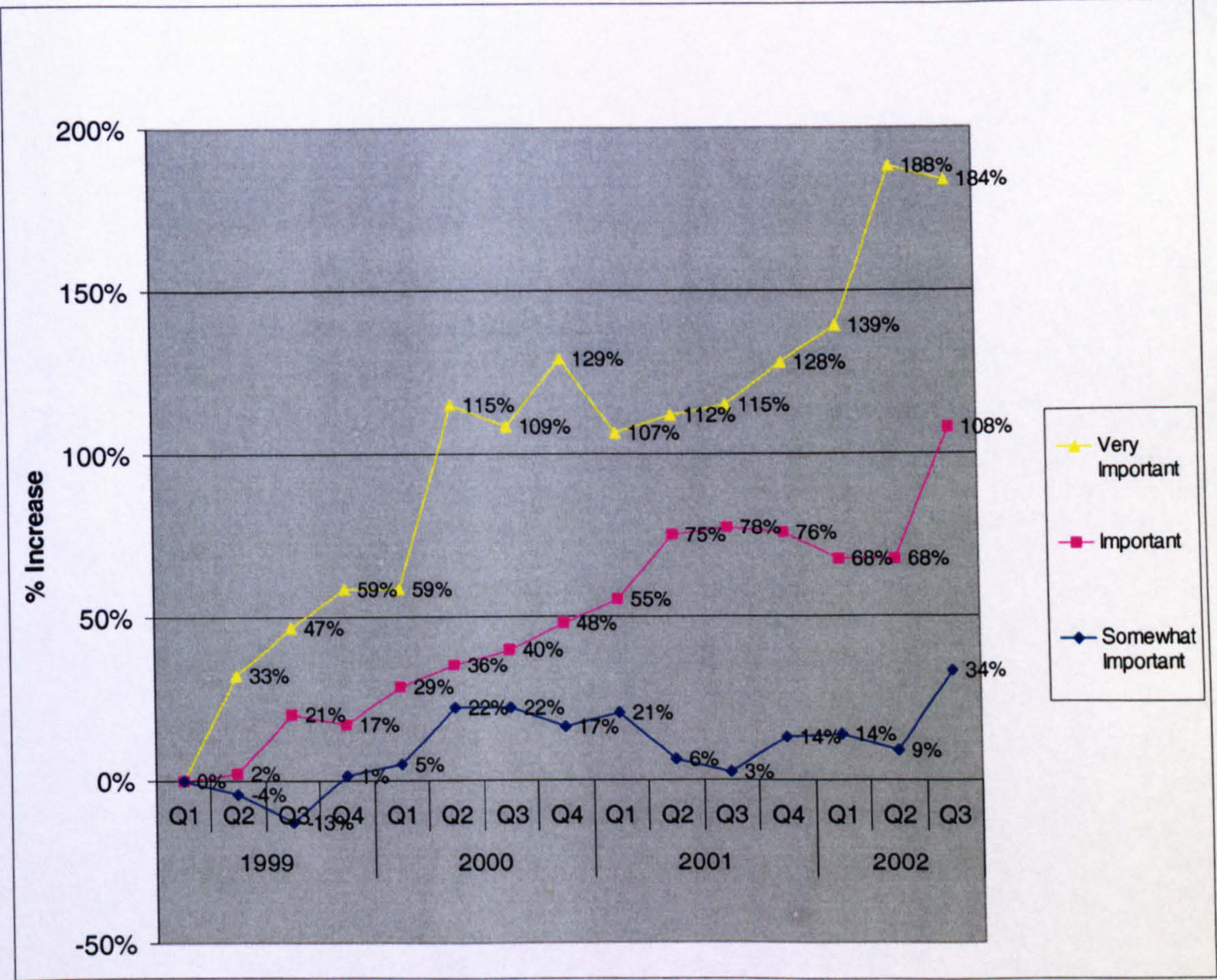
Figure 5.17 Importance of the Internet as a Source of Information



Source: Barbados Tourism Authority (2003)

The summary measure of ‘importance’ was disaggregated to further analyse the comparative increase in importance across the three categories: Somewhat Important, Important and Very Important. Figure 5.18 below clearly shows that the category of ‘very important’ increased the most rapidly of all the categories, as outlined in Table 5.10 above, with a percentage increase of almost two hundred percent (200%) over the period: 1999-2002.

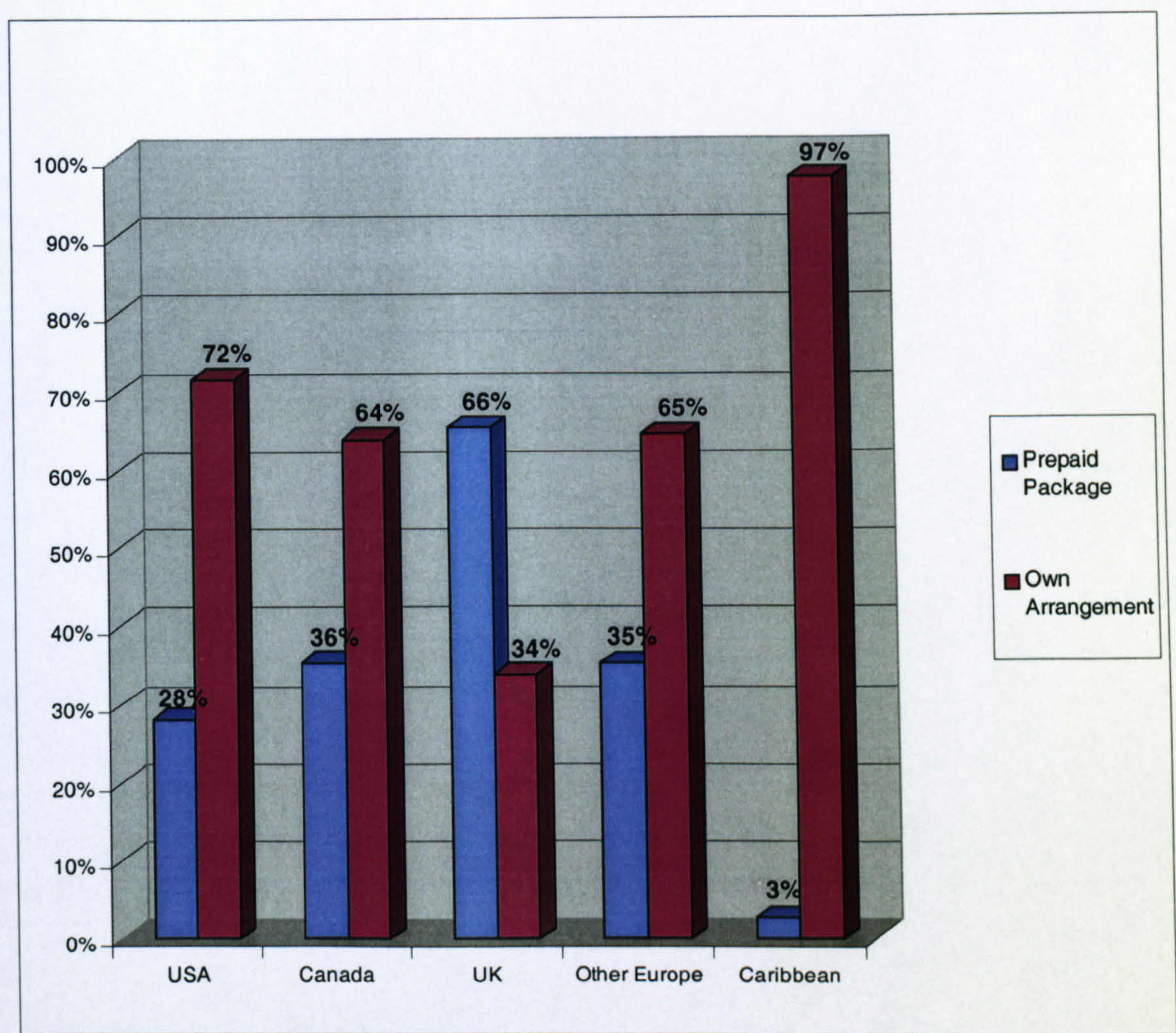
Figure 5.18 Comparative Percentage Increase in the Importance of the Internet



Source: Barbados Tourism Authority (2003)

The use of the Internet by prospective visitors takes on an even greater significance in light of the fact that the analysis further indicated that in the major source markets, travel arrangements are made by the visitors themselves, as opposed to going through an intermediary. Secondary data analysis on the Barbados Visitor Exit Survey for 2002, revealed that the majority of travellers make their own arrangements (Figure 5.19 Below). The only region where this is not the case is the United Kingdom, where intermediaries are the primary channel used to source prepaid packages.

Figure 5.19 Travel Arrangements: By Region



Source: Barbados Tourism Authority (2003)

5.5.3 Web Usage and Visitor Arrivals

One of the aims of the quantitative analysis was to establish whether a causal relationship exists between visits to the web sites of Eastern Caribbean NTO's and subsequent arrivals to the region. The data sources which were required to determine conclusively the nature of the relationship between web usage and arrivals were: arrival data by region/source market; web usage by region (visitor session on NTO web sites); and data to confirm the extent to which persons were influenced by the official *NTO web site* during their decision making /travel planning process.

The focus of this analysis was on the United States market. Given that the most active country in terms of web traffic is the United States, which is also a major source market for arrivals to the destinations in question. Data on web usage was available from the National Tourist Offices in Grenada and St. Lucia, from the inception of the upgraded/re-launched sites, in April, 2001 and January 2002, respectively to the end of 2002.

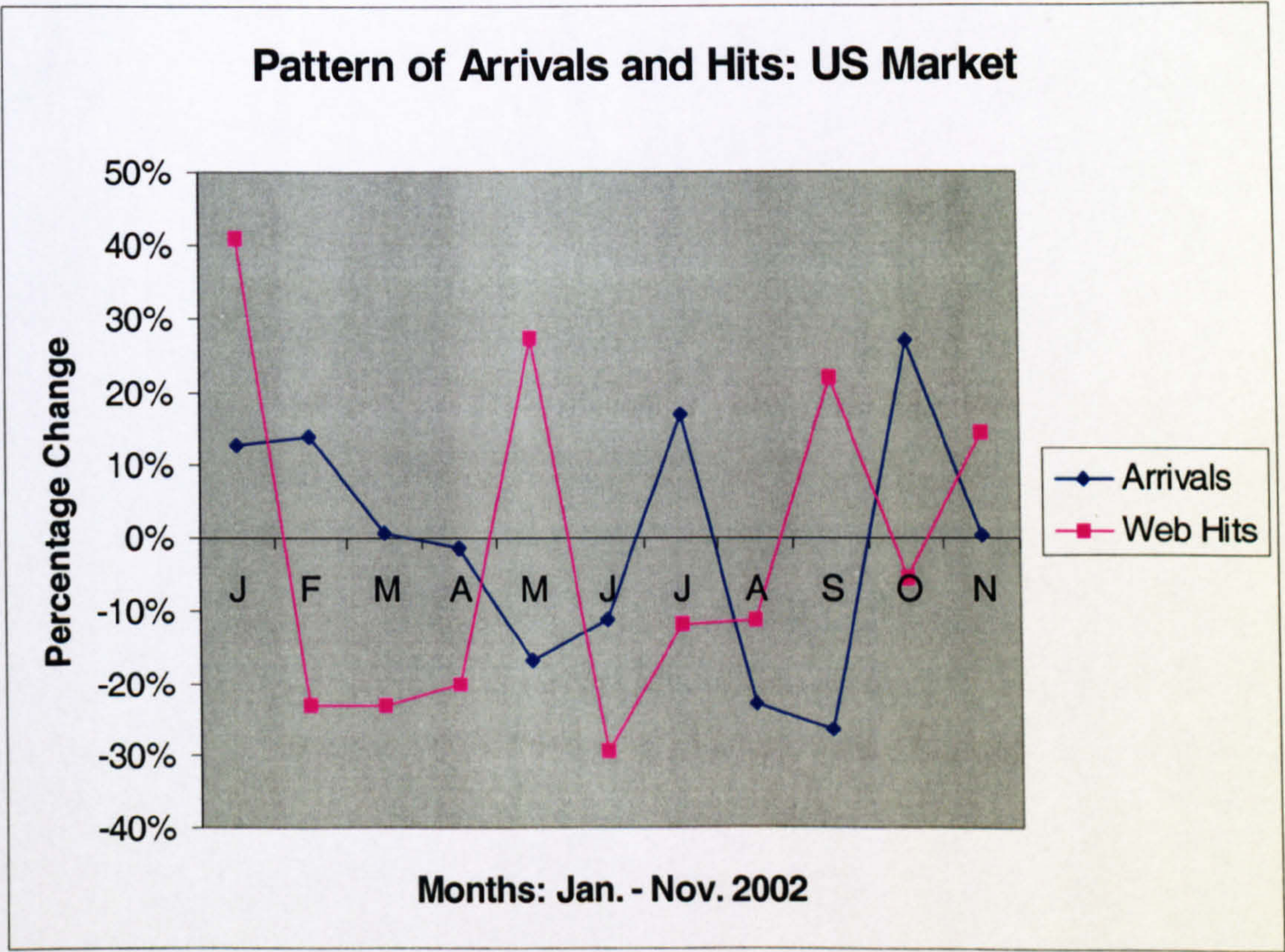
Empirical data was collected for the first two aspects: arrival data (from the CTO Annual Statistical Report and the Intranet Site – onecaribbean.org) and web usage (from Web Trends statistics compiled by the NTO's, but data was only available on the extent to which persons were influenced by the Internet in general as a source of information, as opposed to the NTO web site in particular. Arrangements were made between the researcher and two of the National Tourist Offices, to undertake an online survey of visitors to the NTO web site, as well as to amend the Visitor Exit Survey to capture the critical data on the specific web sites visited by prospective visitors and to determine why such visits were made. The attempts to arrange for the collection of this data were not successful, however.

One of the key indicators examined for this study was visitor sessions on NTO web sites, with attention paid to the country of origin. Visitor sessions are a far more useful measure of a web site's traffic, as opposed to "hits". A hit is the transmission of a single file whether an HTML file, an image file, or another file type. A single request for a Web page can bring with it a number of individual files, each of which is counted as a hit. For example, a page that is made up of a block of text and two graphics will record as three hits. Hence, the number of hits for a site is an exaggeration of the site's actual use and is a misleading basis for usage statistics, and the more appropriate measure is to monitor Visitor Sessions. For purposes of abbreviation, however, the remaining discussion, as well as Figures 5.19-5.26 below refers to Visitor Sessions simply as 'Web Hits'.

Hits and Arrivals: St. Lucia

The St. Lucia Tourist Board (SLTB) officially launched their new web site in November, 2001. The measurement of activity or usage of the site commenced shortly thereafter, in December, 2001. Data analysis with respect to usage patterns was done for the period January to November, 2002 and the findings are illustrated in Figure 5.20 below:

Figure 5.20 St. Lucia: US Arrivals and Visitor Web Sessions - 2002



Source: St. Lucia Tourist Board (2003); Caribbean Tourism Organisation (2003)

A reasonably clear correlation can be discerned between the usage patterns of the SLTB web site and arrivals from the US market. From January to February, there was a dramatic decline in visitor sessions (Web Hits) on the SLTB website, followed by a period of ‘levelling off’ over the February to April Period. A corresponding drop in arrivals occurred from February, which continued through to May 2002. The increase in visitor sessions from April to May and June to September was also followed by corresponding increases in

arrivals for the two ensuing periods: May to July, and September to October. Likewise, the drop in visitor sessions for the periods May to June and September to October was also followed by periods of declines in visitor arrivals for the subsequent periods: July to August and October to November.

A distinct lag ‘effect’, of about one to two months, can be discerned from the above analysis, with respect to the correlation between visitor sessions on the NTO web site and the arrivals from the US Market. This is consistent with the findings based on secondary data analysis with respect to the Visitor Survey data for the island of Barbados with regard to the advance planning time for the majority of visitors: that it is becoming increasingly shorter. As indicated in Table 5.11, over a period of less than two years, there was a forty-four percent (44%) increase in visitors, who plan their vacations within one month of travel to Barbados.

Table 5.11 Advance Planning Times

Time Frame	1 st Quarter - 2001	3 rd Quarter - 2002	Percentage (%) Change
Less than one (1) Month	23.7%	34.1%	+44%

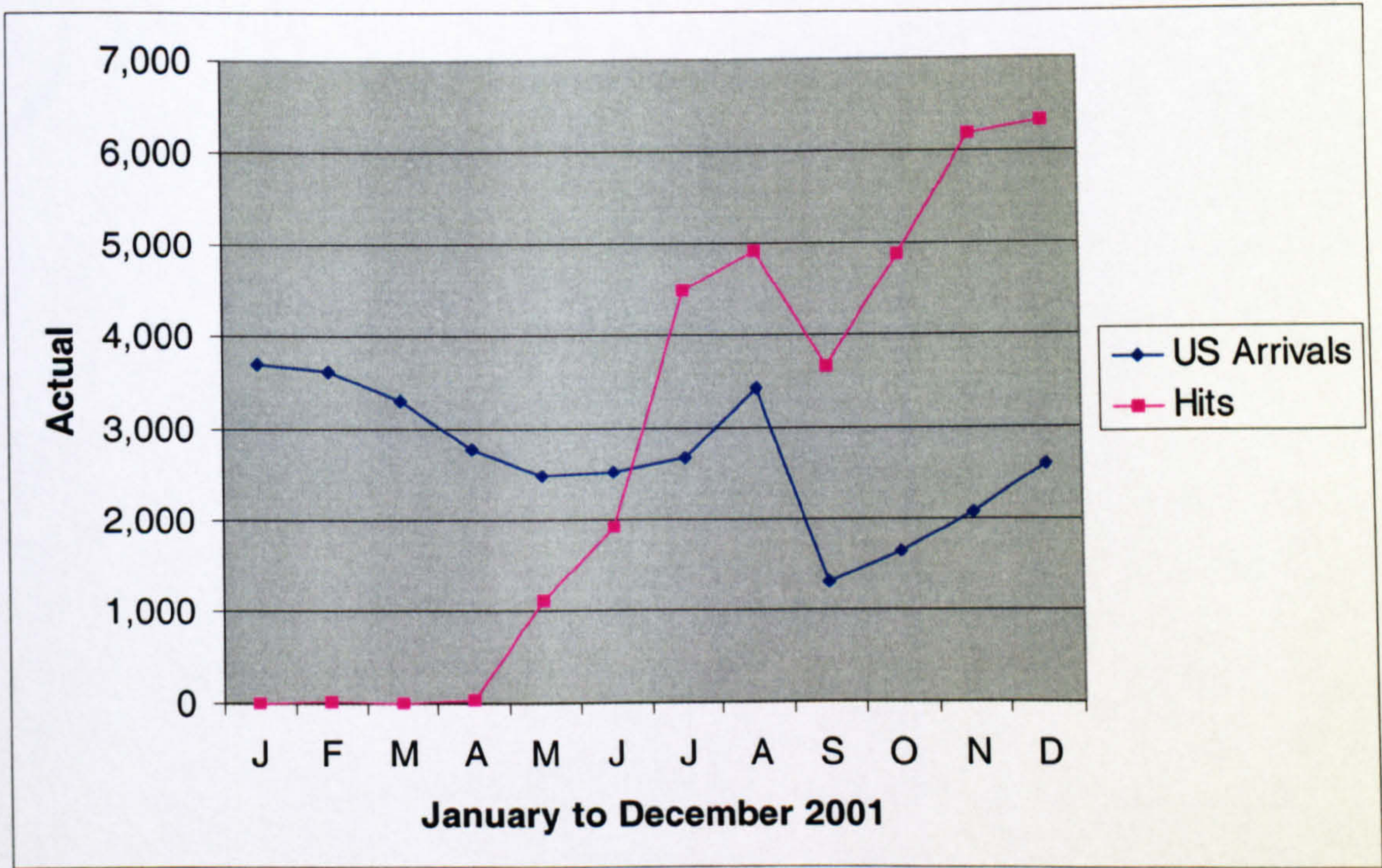
Source: Barbados Tourism Authority (2003)

A further thirty-two percent (31.9%), plan their vacations anywhere from one (1) to three (3) months in advance of travel.

Hits and Arrivals: Grenada

A similar trend was found in the analysis of the pattern of visitor sessions on the Grenada Board of Tourism (GBT) web site and the arrivals to that destination, and is presented in Figure 5.21 below:

Figure 5.21 Grenada: US Arrivals and Visitor Web Sessions - 2001

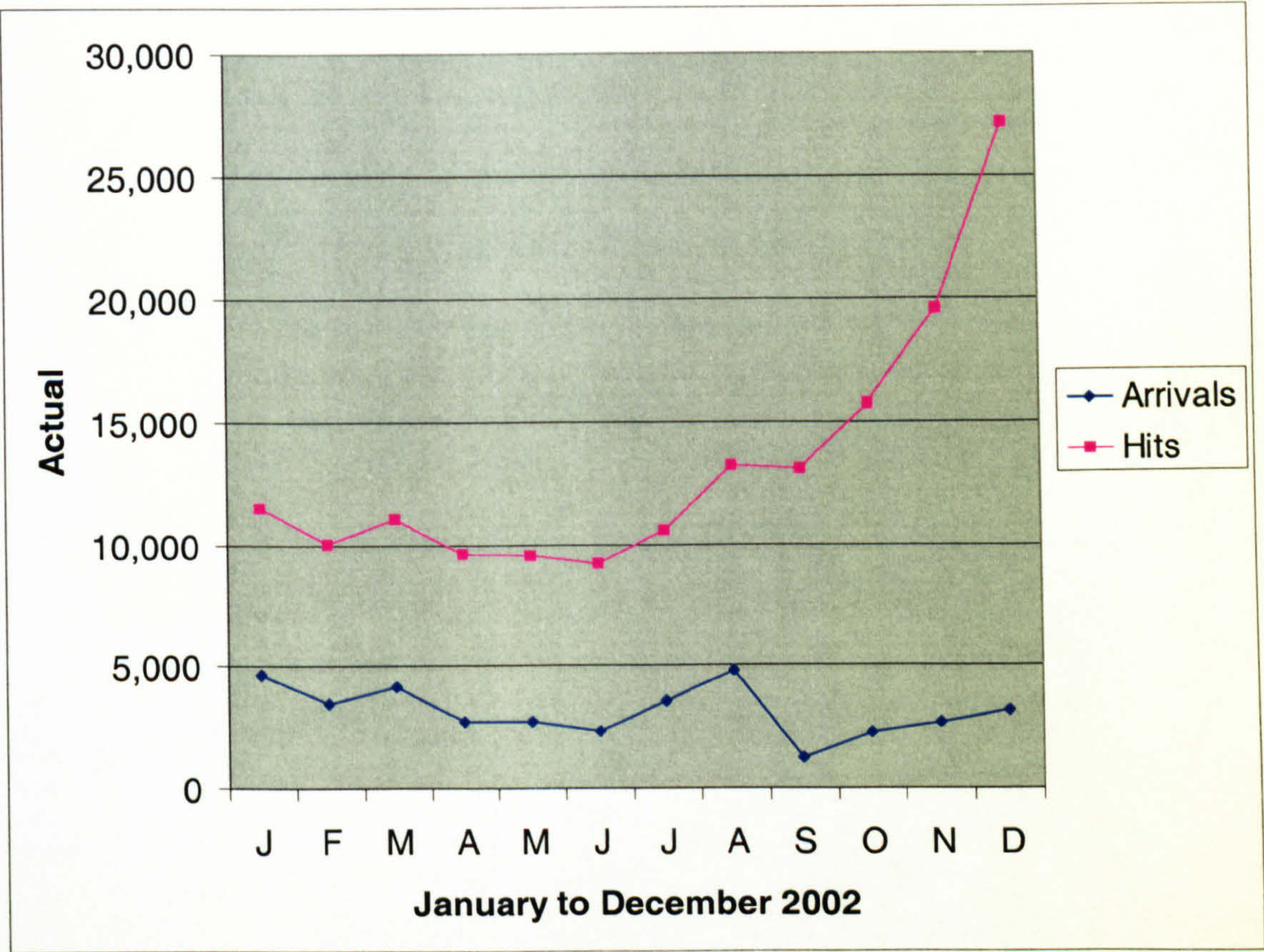


Source: Grenada Board of Tourism (2002); Caribbean Tourism Organisation (2002)

The Grenada Board of Tourist (GBT) web site was launched in April, 2001. A steady, moderate increase from April to July was followed by a sharp increase (132%) from June to July, 2001. A significant corresponding increase in arrivals occurred for the period July to August, 2001. In the same vein, the increase in visitor sessions on the GBT web site over the period September to December (73%), was coupled with an even more significant increase in arrivals for that same period (99%).

Figure 5.22 below portrays the clear correlation in the trends in visitor sessions and arrivals for 2002.

Figure 5.22 Grenada: US Arrivals and Visitor Web Sessions - 2002



Source: Grenada Board of Tourism (2002); Caribbean Tourism Organisation (2002)

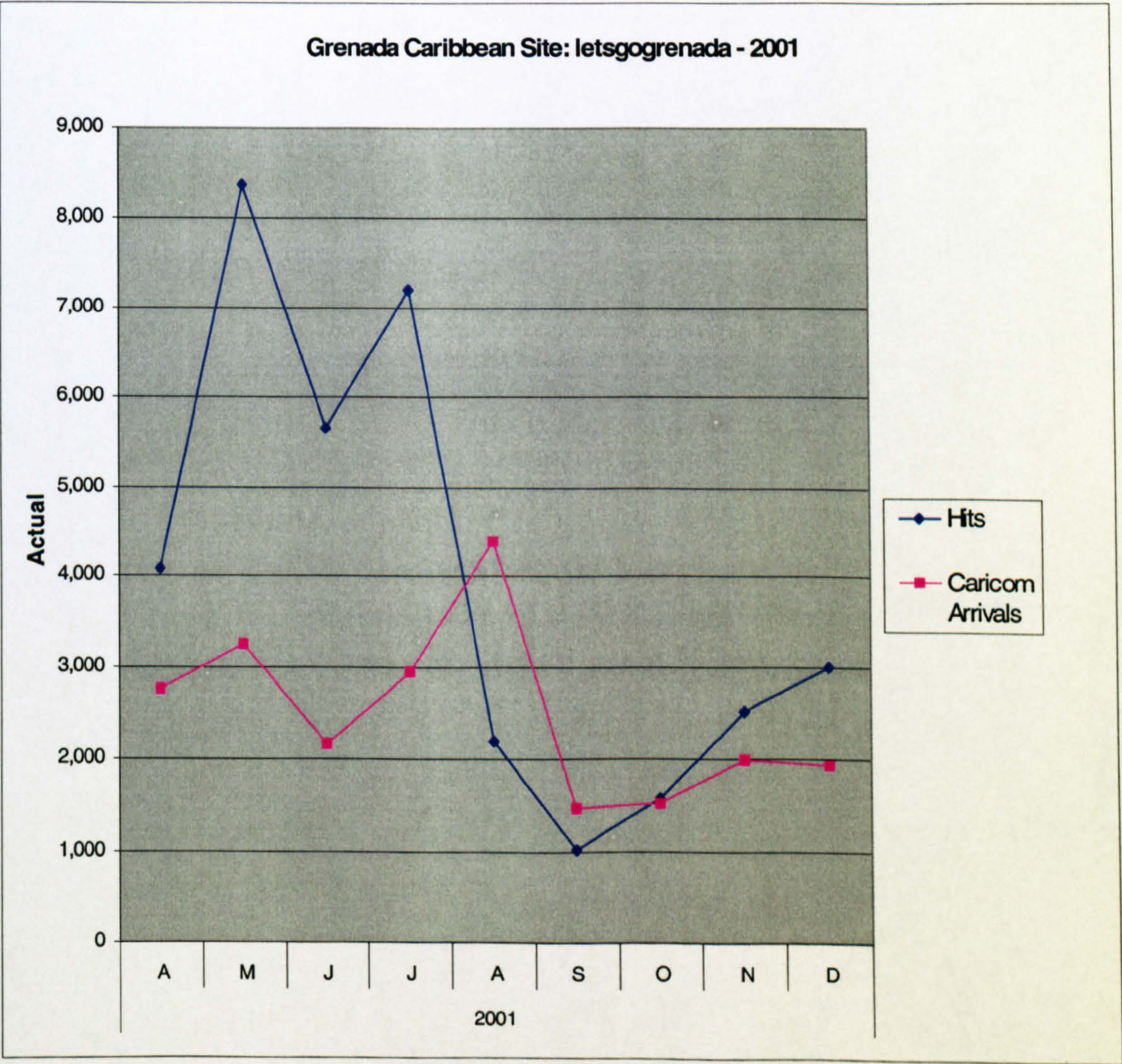
There is a strong correlation suggested by the corresponding increase over the period June to August, 2002 for both visitor sessions to the web sites (106% increase) and in arrivals (44% increase). Also, the levelling off in the web activity from August to September, and the subsequent increase, corresponds to the decline in arrivals for the same period.

The rapid increase in visitor sessions (108%) over the period September to December, 2002 while matched by an increase in arrivals (144%), can also be attributable to the engagement of a firm based in the United States for the purpose of promoting the web site and optimising the search engine process, with respect to the GBT web site. While the above correlations between visitor sessions on the SLTB and GBT web sites and arrivals from the United States market is striking, due to the absence of data on the specific purposes for the visits to the web site and the timing of such visits, conclusions cannot be extended into the

realm of causality. In other words, data needs to be gathered on whether persons visited the site in order to arrive at a decision to visit the destination or whether upon deciding to visit the destination, go to the web site for further information and vacation planning.

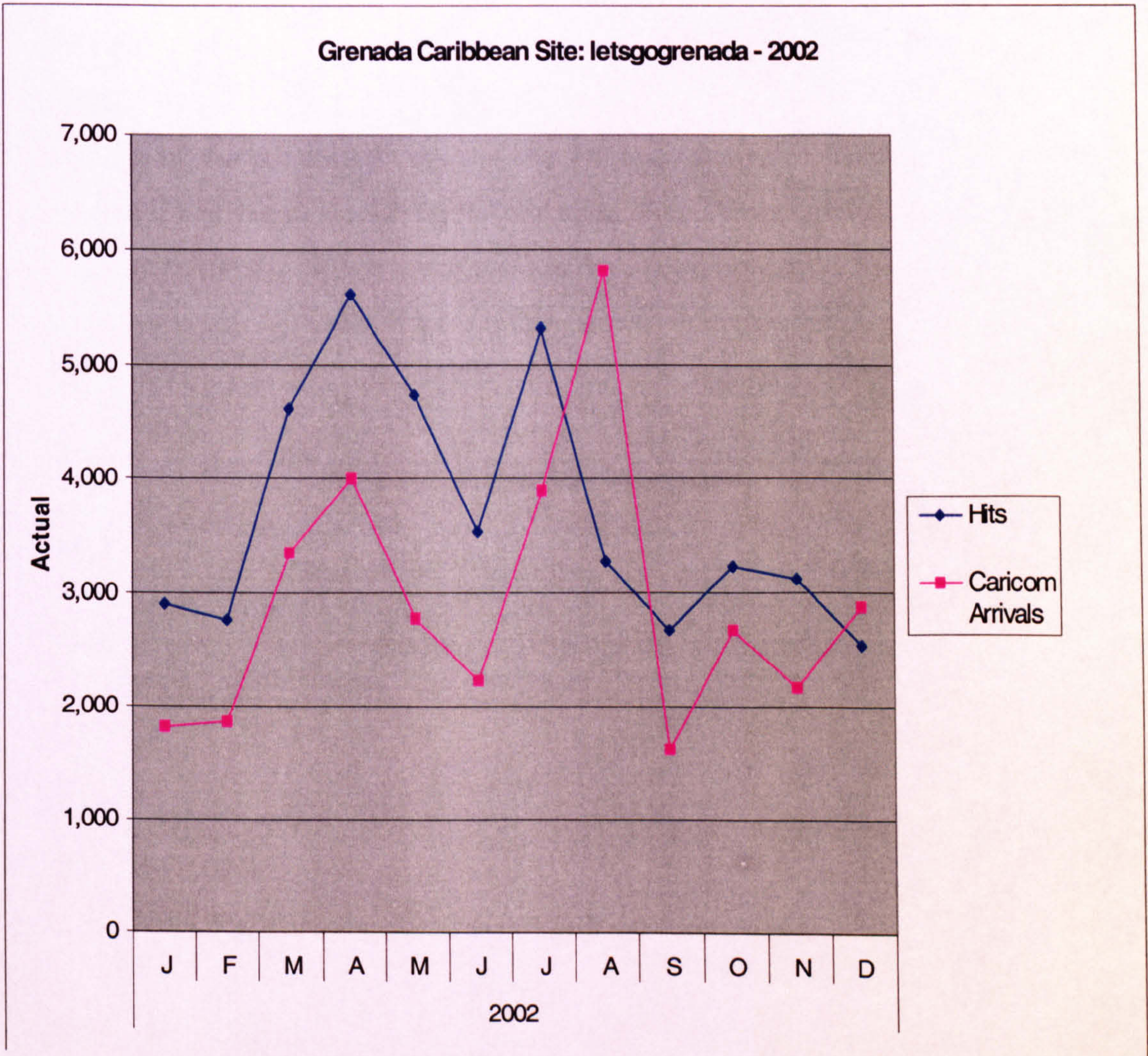
The analysis of the pattern of usage of the Grenada Board of Tourism (GBT) web site focused on the Caribbean market – letsgogrenada.com and the arrivals from the Caribbean also revealed a similarly strong correlation, as illustrated in Figures 5.23 and 5.24, below.

Figure 5.23: Caribbean Arrivals and GBT Visitor Web Sessions - 2001



Source: Grenada Board of Tourism (2002); Caribbean Tourism Organisation (2002); CTO Intranet: onecaribbean.org

Figure 5.24: Caribbean Arrivals and GBT Visitor Web Sessions - 2002



Source: Grenada Board of Tourism (2002); Caribbean Tourism Organisation (2002); CTO Intranet: onecaribbean.org

6. Case Study Analysis: Conception-Reality Gaps

The failure of information systems (IS) to meet organisational requirements and expectations has been an ongoing phenomenon. Information system failure is an extremely frequent occurrence, and a complex concept that is rooted in several different domains - technical, data, user, and organisational (Lyytinen and Hirschheim, 1987). Failure can be defined as the inability of an IS to meet a specific stakeholder group's expectations, and the concept of expectation failure allows for failure to be viewed as a continuum rather than a discrete event (Lyytinen and Hirschheim, 1987; Heeks, 1999).

An examination of the fundamental factors impacting upon the implementation of IS, as independent or 'stand-alone' initiatives or as part of IT-enabled change or reform programmes, indicate that one of the central issues is the existence of 'conception-reality gaps' (Heeks, 1999). In other words the success and failure of such IS implementation, is explained in terms of the extent to which gaps exists between the requirements and conceptual models - assumptions inherent or implicit within - new information systems on the one hand and the existing public sector realities, on the other.

These gaps are classified, in the Heeks Model (1999), under three broad archetypes: rationality-reality gaps; private-public gaps and country context gaps. These are discussed in the following section (6.1), with reference to the case studies. Some fundamental assumptions with respect to the implementation of web-based systems and the use of the Internet by Destination Management Organisations (DMO's) are presented in Section 6.2, as well as the procedure used in the operationalisation and quantification of the gap dimensions.

Section 6.3 deals with the specific conception-reality gap dimensions, using each dimension as a particular variable under investigation, across the entire range of the sites used for the field work – five (5) National Tourist Organisations and the regional

Destination Management entity, the Caribbean Tourism Organisation. The conception-reality gap analysis for the four (4) Case Study sites is presented in Section 6.4.

6.1 Conception-Reality Gap Archetypes

6.1.1 Rationality-Reality Gaps

Rationality-reality gaps entail the degree to which rational models of organisations form the basis for the successful implementation of a system, as opposed to the reality that behavioural and political models may better characterise the organisation. Rational models assume that logic and objectivity underlie the workings of organisations. Alternative behavioural and political models hold that more subjective factors, such as self-interest, personal objectives, in addition to group norms and group dynamics, provide a more valid explanation of organisational realities.

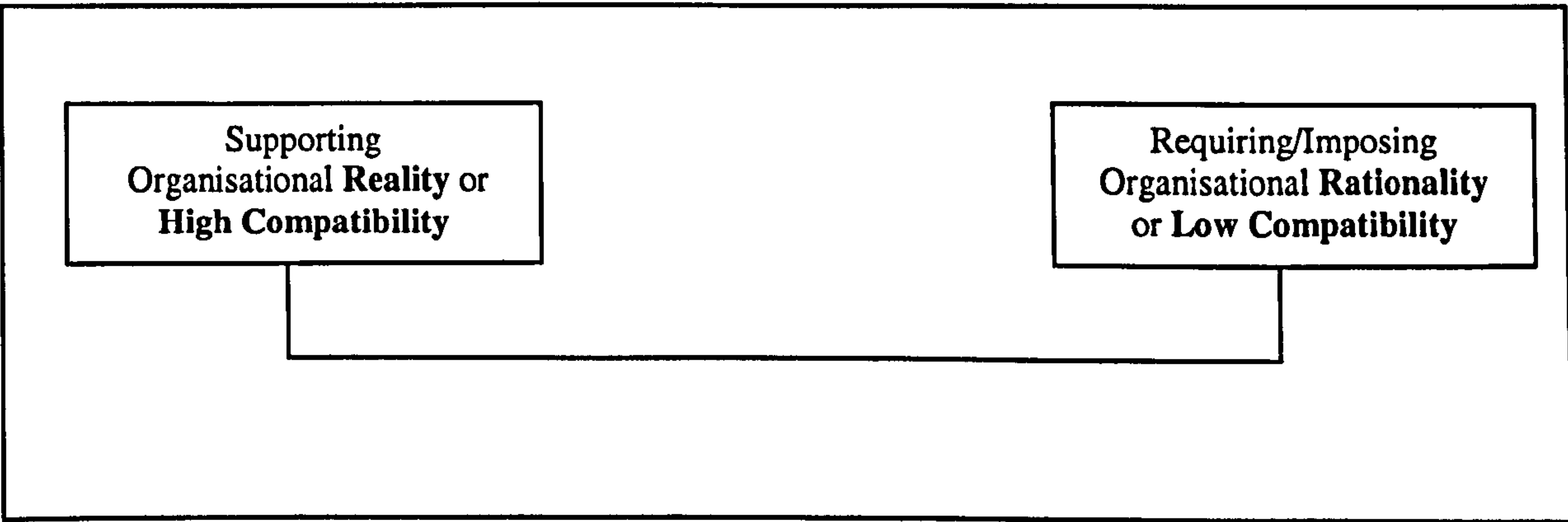
For example, in one of the National Tourist Organisations (NTO's) in this study, the introduction of an information system required that staff work overtime to enable the timely completion of the data entry phase. While the remuneration levels were acceptable to the staff, many of whom clearly expressing an interest in receiving greater levels of income, it was found that decisions on working overtime were often not based on a logical, objective process, but on many more subjective and cultural values.

For example, some employees were concerned that they would seem to be trying too hard to facilitate and accommodate what some viewed as the 'unreasonable' wishes of management, as opposed to showing solidarity with other employees who would not or could not work overtime. As Heeks (1999) contends, the public sector is characterised by "...a strongly emphasised façade of organisational rationality [which] often covers a seething mass of very different political realities."

With specific reference to the information systems, a continuum of computer applications, in terms of the extent to which they derive from approaches of organisational rationality or

organisational reality, is portrayed in Figure 6.1 below. Computer applications can be classified on the continuum, akin to the long-standing notion of the level of ‘compatibility’ with respect to the introduction of technical innovations in organisations (Rogers and Shoemaker, 1971; Kimberly and Evaniskov, 1981).

Figure 6.1 Continuum of IS Applications



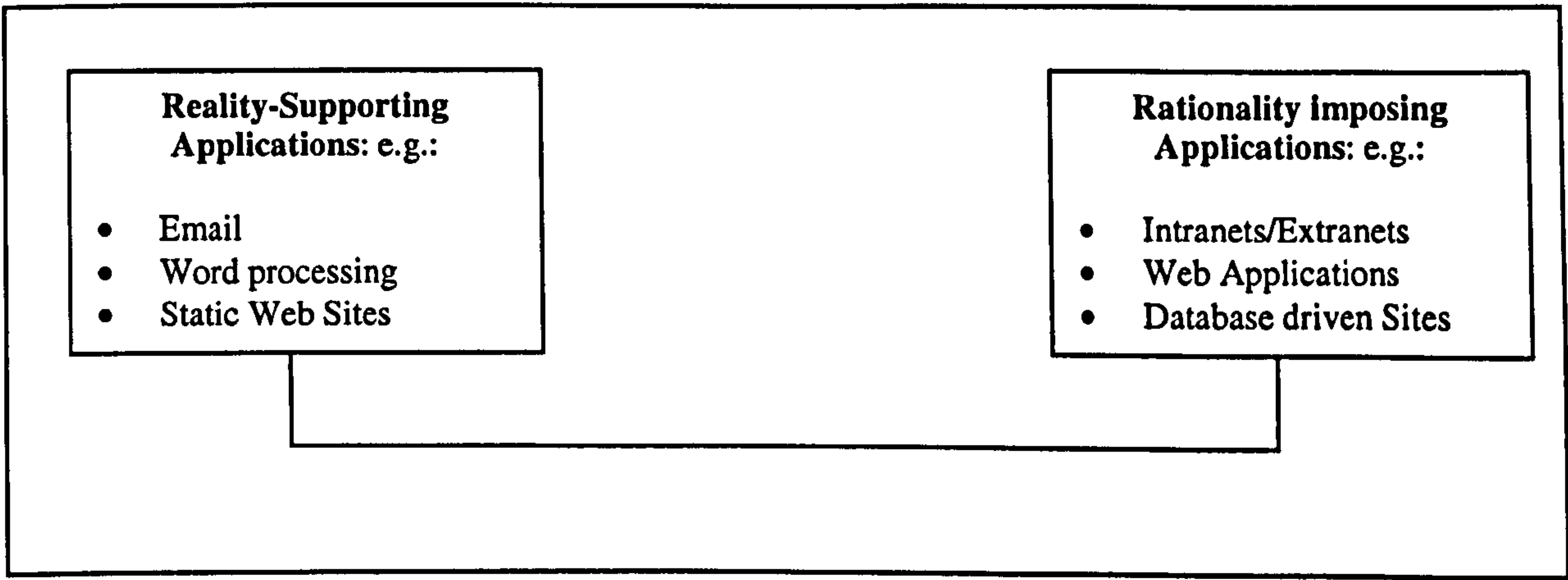
Adapted from Heeks (1999); Rogers and Shoemaker (1971)

Rationality imposing applications are developed from an organisation’s rational perspective, and are characterised by information systems that incorporate a significant set of rational structures, processes, culture and strategies for their operations (Heeks, 1999). Such systems would be classified as ‘low’ in terms of compatibility (Rogers and Shoemaker, 1971). The implementation of an Extranet by one of the NTO’s and the regional Destination Management Organisation (DMO) would be an example of a rationality imposing application.

This is due to the fact that firstly, the typical Small Island Developing State NTO is small, with globally dispersed units, having high information and communication requirements and necessitating ongoing coordination from a local head office. Secondly, the speed and timeliness which must characterise the various business processes, among a myriad of stakeholders locally and internationally, and in light of the relatively high cost of traditional telecommunications channels, it is clear that the successful implementation of an Extranet would constitute a strong rationality imposing application.

Reality-supporting applications, however, are not developed from a strongly rational perspective. They are typically basic computer applications or information technologies, as opposed to full-fledged integrated information systems, that emerge within the organisations largely due to convenience and wide spread availability. Reality-supporting applications require fewer ‘rationalities’ to be met as pre-conditions or to be imposed during the implementation process. Examples of these two categories are shown in Figure 6.2 below:

Figure 6.2 Reality Supporting and Rationality Imposing Information Systems



Adapted from Heeks (1999).

It was found that the computer applications used by the NTO’s in the Eastern Caribbean and the regional DMO, the Caribbean Tourism Organisation (CTO) were predominantly reality-supporting, as opposed to rationality-imposing applications. A model illustrating the exploitation of reality supporting and rationality imposing applications, based on a combination of theoretical frameworks was developed and is presented in Section 7.2.2. For the most part, however, it was found that the exploitation of the ICDT spaces was characterised by applications and systems that: support current ‘realities’; are high in compatibility; and are simple and low in complexity.

6.1.2 Private-Public Gaps

The introduction of private sector management practices and systems into the realm of public sector operations has been widely advocated as a means of enabling drastic improvements in levels of efficiency and effectiveness (Mechling, 1994; Hammer, 1995, Caudle, 1995; Osborne, 2000). It should be noted, however, that the wholesale adoption of private sector practices, as the panacea for the poor public sector management and performance tends to overlook two fundamental concerns.

Firstly, private sector practices are usually, but not always, inherently more effective or efficient than those in the public sector. Undoubtedly, the focus on concrete and clear objectives, such as profit margins, earnings per share, market share and long term viability, would propel private sector firms to assiduously attend to issues of productivity, efficiency and effectiveness to a degree that is not characteristic of most public sector operations. However, the processes and operations in the private sector are by no means flawless. The collapse of many electronic commerce operations at the turn of the Century, the perennial difficulties of the private sector in the implementation of major IT projects and the wave of major corporate scandals and mismanagement that came to light in the United States and the United Kingdom in 2001-2002, clearly illustrates this point. As noted by Willcocks (1994:16),

Those arguing for the introduction into the public sector of better – private sector – management practice often fail to address the mixed record of private sector organisations on both IT and non-IT issues, and often fail to point to the considerable long-standing debate of how far private sector practice needs to be improved.

Secondly, the fact that public sector objectives and operations are typically broader in scope than those of the private sector, encompassing social, political and economic factors, as opposed to a more narrow financial focus, invariably result in a more political, qualitative and subjective decision making processes at the policy level. This is seen in various ways with respect to the Tourism industry in the Caribbean. For example, the issue of the support for smaller, indigenous properties, ensuring that the benefits of the sector are

diffused throughout the local economy and the protection of environmental and natural resources are some examples. This view was also supported in an interview with Brian Gurnett, who served as an IT consultant to the Caribbean Tourism Organisation (CTO), in the development of the new web site and extranet,

The perspective of NTO's in the region tends to be broad, influenced by political considerations, voter's impressions... and not as a business organisation looking primarily at profits. For example, political considerations about 'resentment', the possibility of losing jobs to IT or concerns of locals on the outflow of profits from foreign owned organisations. (Gurnett: Personal Interview)

In essence, attempts to ignore the context and particular characteristics of the public sector organisations will tend to increase the likelihood of failure with respect to the information systems implementation (Heeks, 1999).

6.1.3 Country Context Gaps

The issue of technology transfer from the industrialized countries to developing countries has been a much debated issue, over the last thirty years. Central to this debate is the relevance of country specific issues, as they relate to the implementation and use of technology developed in the context of a different country. It is argued, given that a myriad of assumptions are inherent in the design of technological innovations, the transfer of technology from one country to the next, and in particular from industrialised countries to developing and under developed countries is fundamentally flawed.

The concept of 'technology transfer', it is argued, is analogous to bringing in a train to solve the transportation deficiencies of a country with no railway tracks, train operators or mechanical engineers (Heeks, 1999). With respect to computer based information systems some of the fundamental differences have been well established (Bhatnagar, 1990, 1992; Heeks, 1999):

- **Information:** formal, quantitative information stored outside the mind tends to be valued less in developing countries. This is often exemplified by the relative importance placed on oral methods, as opposed to the written medium, as a means of transferring information, indigenous practices and culture from one generation to another. The perceived value of a computerised information system may not match developing countries realities.
- **Technology:** the technological infrastructure is more limited and outdated in developing countries. Consequently industrialised country assumptions about availability of Internet connections to support inter agency information flows, for example, may not match developing country realities. This is primarily due to the high cost of access, technology infrastructure and the low level of awareness and understanding of the potential benefits of the new information and communications technology.
- **Processes:** public sector processes are more contingent in developing countries because of the more politicised and inconstant environment. The viability of automating a coherent and consistent set of processes may not be realistic in the context of developing countries.
- **Objectives and values:** developing countries are reportedly more likely to have cultural values associated with loyalty, authority, secrecy and risk aversion. Thus, the value of leading edge information systems, on the premise of the free sharing of information across the various levels of the organisational structure, may not be desirable in a developing country context.
- **Staffing and skills:** developing countries have a more limited local skills base, and there usually is a deficiency in the knowledge and skills sets required for the latest web-based systems. The level of computer literacy, comfort levels with information technology, and indeed in some cases, basic literacy, is also limited.

- **Management and structures:** developing country organisations are more hierarchical and centralised. Consequently, industrialised country assumptions about the acceptability of IT-enabled initiatives that disperse information and power may not match developing countries realities.
- **Other resources:** availability of financing for information systems is significantly less in developing countries. The cost of information technology, relative to labour cost, is also higher than in industrialised countries. Overriding economic, social and political considerations as regards public sector employment often mean that assumptions about the financial benefits of efficiency gains from replacing clerical staff with automated systems are not realistic in a developing countries context.

6.2 Gap Dimensions

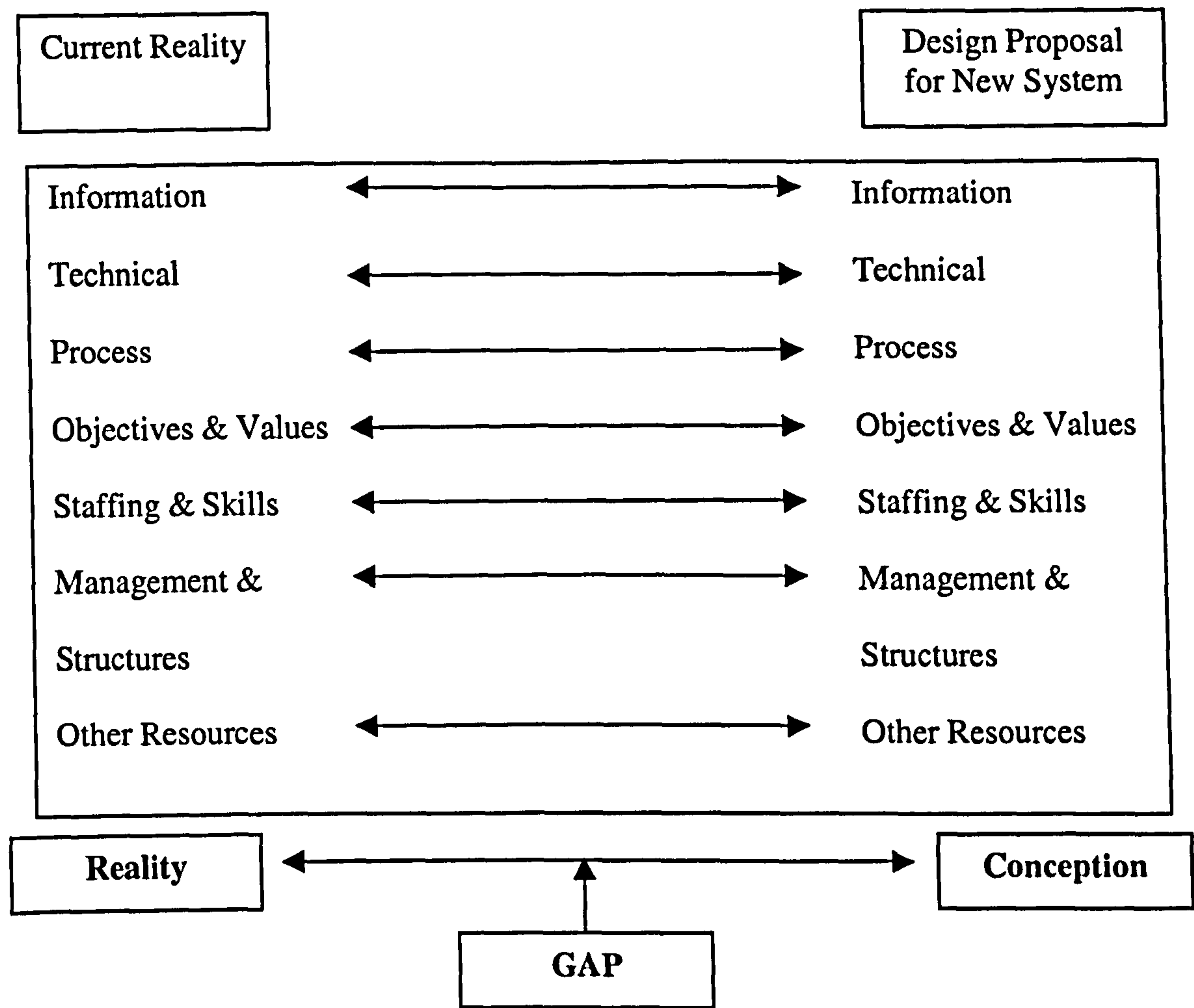
6.2.1 Introduction

In addition to the three broad conception reality gap archetypes, discussed in 6.1.1 – 6.1.3 above, a more detailed level of the Heeks model (1999) seeks to explain the success and failure in IT-enabled public sector reform in terms of specific dimensions of the ‘conception-reality gap’. Seven dimensions of this gap are identified, these are: Information factors; Technical factors; Process factors; People factors: Objectives, values and motivations; People factors: Staffing and skills; Management and structures; and Other resources: money and time (Heeks and Bhatnagar, 1999).

Figure 6.4 below illustrates the concept of the gaps between the conceptions or assumptions that are made about conditions and requirements for the successful implementation of information systems and the realities that organisations face, which result in information systems implementation failure.

Fundamentally, the conceptual underpinnings of this framework, as alluded to earlier, is analogous to established theories on process innovation, developed over the last two to three decades. The compatibility of an innovation is the degree to which it is perceived as being consistent with existing values, past experiences and needs of the receivers of the innovation (Rogers and Shoemaker, 1971; Rogers, 1983). This definition suggests that compatibility can be related to; (1) how people think and feel about a technology or (2) how it fits operationally with what they are doing.

Figure 6.4 Dimensions of the Conception Reality Gap



Adapted from Heeks (1999).

Research that has tested compatibility has typically used either one of these definitions in an attempt to understand innovation characteristics and adoption. Findings suggest that the more an innovation is perceived as being compatible with an organisation's current systems, procedures, and values, the greater the likelihood of adoption and implementation (Kimberly and Evaniskov, 1981). Low compatibility of an innovation would, therefore, be reflected by the existence of wide gaps with respect to several dimensions of the 'conception-reality' model, leading to an increased likelihood of implementation failure.

The additional utility of the conception-reality model, however, is that it deals with the analysis of information systems failure in a manner that allows for the clearer identification

and provides a richer set of elements upon which to deconstruct and elucidate the influence of the various aspects of ‘lack of compatibility’, in cases where significant conception-reality gaps exist. The utility and validity of the model is also enhanced by the ability to determinate appropriate measures to close the various gap dimensions – in terms of changing the organisational reality or adjusting the design and conceptual model of the proposed system.

Data gathered for this study was based primarily on the various dimensions of the Heeks (1999) conception-reality model, and extended with other variables based on the literature review and semi-structured interviews with industry personnel. The identification and measurement of the existence and extent of gaps was done through survey items soliciting the levels of agreement - from strongly agree to strongly disagree - on a range of areas representative of the dimensions of the conception- reality model illustrated in Figure 6.4 above and the additional variables included in the study.

Data was triangulated with the findings from semi-structured interview questions on the barriers/constraints to the adoption and effective use of IT, as well as the facilitators/enablers to the same.

6.2.2 Conceptions and Assumptions

The following table outlines the key assumptions that would be relevant for the successful implementation of web-based systems and the adoption of the internet by Eastern Caribbean NTO’s and the Caribbean Tourism Organisation. This was developed after a thorough review of the literature and extensive discussions with several academics, as well as many practitioners in the field of Information Technology and Tourism.

Table 6.1: Conceptions & Assumptions for all Dimensions

Dimensions	Assumptions
Information	<ul style="list-style-type: none">• There is a need and willingness to tap into online sources of information by stakeholders• There is online access (Internet connectivity)• Relevant, accurate and up-to-date information can be sourced, compiled and provided in a timely manner• Information will be presented in a diverse and interactive manner, capitalizing on the multimedia capabilities of the Web.
Technology	<ul style="list-style-type: none">• The necessary hardware, software and networking infrastructure, as well as the broader requirements: reliable telecommunications links, internet connections, electricity, etc., are in place
Processes	<ul style="list-style-type: none">• Existence of rationale, stable processes that can be automated• Supporting organisational processes are in place
People: Objectives, Values & Motivations	<ul style="list-style-type: none">• Staff are adequately motivated to adopt IT and to cope with or embrace the necessary changes• A sense of urgency exists with respect to the need for web-based systems• There is a culture of information sharing & reliance on formal sources of information for decision making
People: Staffing & Skills	<ul style="list-style-type: none">• Existing staff have the required knowledge and skills to perform all of the stages of the web-based systems implementation process• Adequate staff levels for the development and operation of the system
Management	<ul style="list-style-type: none">• Management is aware of the potential of IT and web-based systems in particular• Management understands and is involved in the implementation process• Management is committed and champions the necessary organisational changes required to support the implementation of IT initiatives
Structures	<ul style="list-style-type: none">• The existing structures at all levels (regional, national, industry and organizational) are adequate for and requires the introduction of web-based systems
Money	<ul style="list-style-type: none">• Adequate levels of financial resources are available• The allocation of financial resources for web-based initiatives is seen as a priority
Time	<ul style="list-style-type: none">• adequate time is given for the systems development, as well as the change management processes,• Recognition of the need for quick action, speeding up the implementation process given the highly competitive international tourism environment

One of the key conclusions of the World Tourism Organisation (2001) with respect to the implementation of web-based systems by destination management organisations is particularly noteworthy at this juncture:

How quickly various online services are implemented will depend on the level of funding available and the capacity of the DMO(s) and partner organisations to handle them...the culture of the organisations and their willingness to do business in new ways. In the right circumstances, it may be possible to implement...within 12 to 18 months. In other destinations, it may take three or four years (World Tourism Organisation, 2001: 20).

It must, therefore, be noted that the specific findings with respect to the extent of the conception-reality gaps, are a ‘snap-shot’ of a transitory scenario, and one that will invariably be subject to constant change over time. Further, notwithstanding the fact that the technology is changing rapidly and organisations are also forced to become easily adaptable to change, results would vary across different information system initiatives and would often take, as noted previously, several years to be fully implemented (Ranerup, 1999; World Tourism Organisation, 2001).

6.2.3 Conception Reality Gap Measures

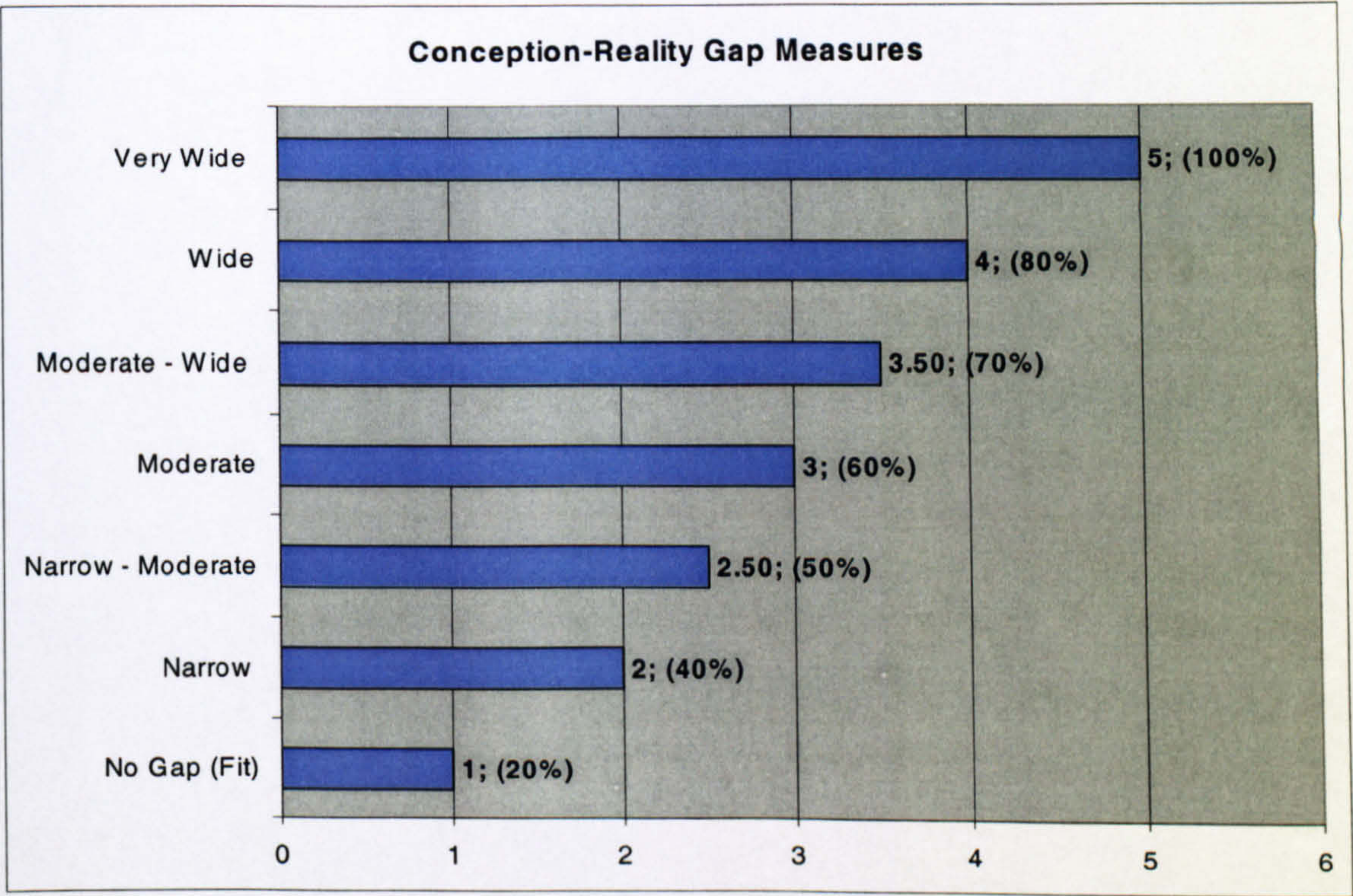
A total of thirteen items were used on the survey instrument to measure the various conception-reality gap dimensions. Table 6.2 outlines the *benchmark indicators/measures* for the gap dimensions investigated:

Table 6.2 Conception-Reality Gap Measures

Survey Measure (Five point Scale: 1-5)	Strongly Agree (1)	Agree (2)		Partially Agree/Disagree (3)		Disagree (4)	Strongly Disagree (5)
Extent of Gap	No Gap: Fit	Narrow	Narrow to Moderate	Moderate	Moderate to Wide	Wide	Very Wide
Percentage	20%	40%	50%	60%	70%	80%	100%
Corresponding Score	1	2	2.5	3	3.5	4	5

Each item was given a corresponding score, as illustrated in Table 6.2 above, based on respondents' replies - from strongly agree to strongly disagree - to the thirteen items on the questionnaire. The benchmark gap measures on the scale of 'very wide' to 'no gap/fit' are illustrated in Figure 6.5 below.

Figure 6.5: Graphical Display of Benchmark Gap Measures: By Individual Dimensions

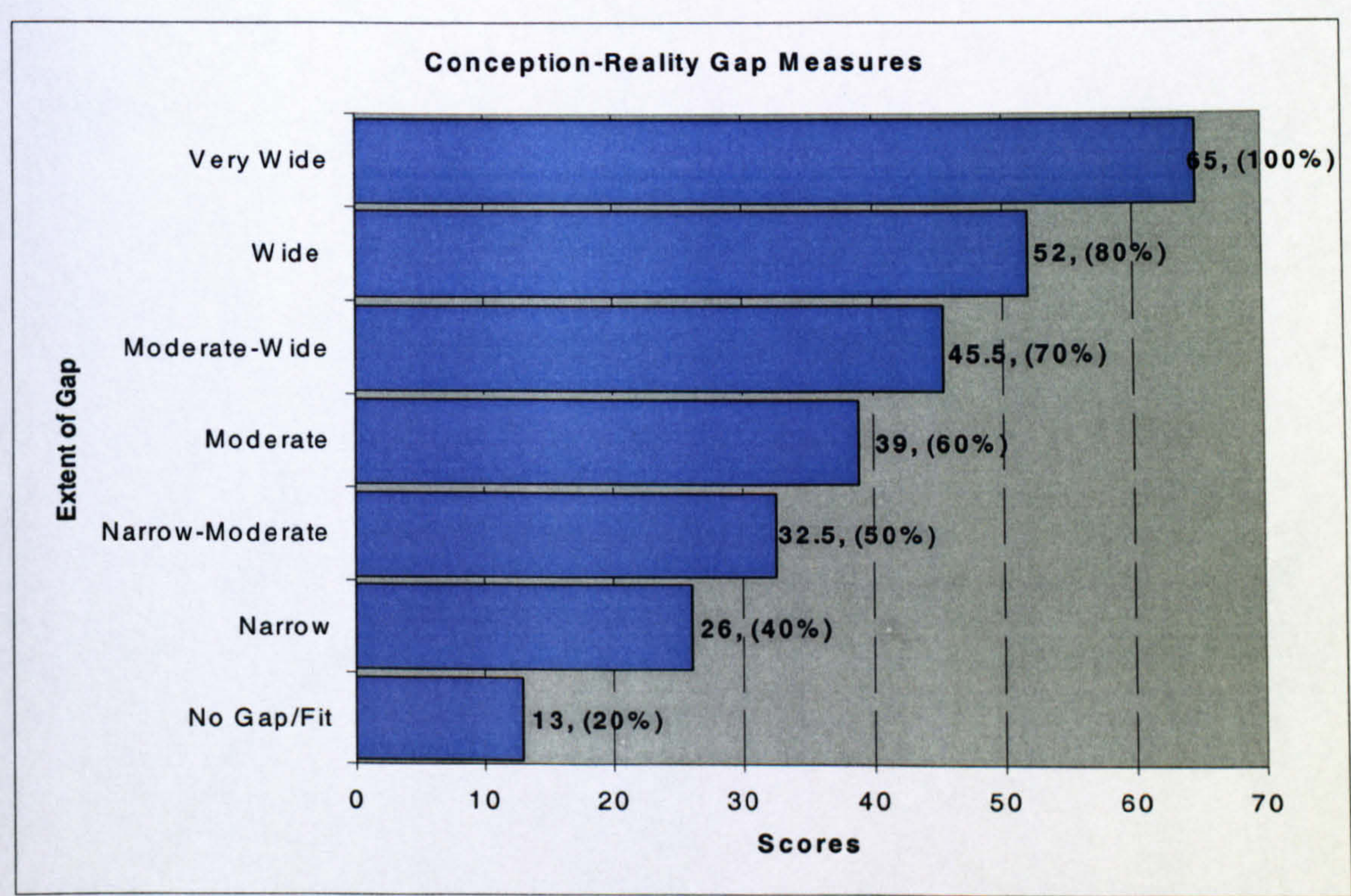


The Heeks 'ITPOSMO'²¹ model (1999), was extended to include the following dimensions, based on extensive interviews with industry personnel and academics and the relevant themes arising out of the literature on information systems implementation and information technology and tourism: *Emphasis* given to the Internet and web-based systems; *Sense of Urgency*; *Integration* with traditional marketing and operational processes; *Communication* to staff members; *Staff Participation* and acceptance; *Continuous upgrade* of Web-based systems.

²¹ Information; Technology; Processes; Objectives, values and motivations; Staffing & skills, Management & structures; and Other resources.

In order to arrive at gap measures for each *case study site*, the measures were aggregated across the thirteen items. The range of the total possible scores, reflecting the outer extremes of the gap dimension for each site is illustrated in Figure 6.6 below, and is computed as follows: (thirteen items for each site multiplied by one (1): ‘No Gap fit’ = thirteen (13) and thirteen items multiplied by five (5): ‘very wide’ = Sixty-five (65).

Figure 6.6 Graphical Display of Gap Measures: Aggregated by Site



Data was also collected through semi-structured interviews. The findings of the survey (numeric gap scores) were triangulated with the qualitative interview data. The analysis of most of the gap dimensions was found to be consistent across the data sources and methodological approaches. Where the findings seemed incongruent across the different methodological approaches, further probing, data validation and verification processes resulted in more detailed clarification and more in-depth explanations of seemingly contradictory indicators from the initial analysis and triangulation process. The various dimensions of the conception-reality gap model are discussed in the following section (6.3). Section 6.4 presents the gap analysis with respect to the individual case study sites.

6.3 Conception Reality Gap Analysis: Dimensions

The fieldwork, leading to the assessment of the gap dimensions, was done across five (5) National Tourist Offices and the regional destination management organisation²². Scores from the respondents across all of the sites where data was collected were aggregated to arrive at the overall assessment of each dimension of the conception-reality gap. The analysis here can therefore be considered to be ‘variable-led’, with the focus on dimensions of the conception-reality gap, at a multi-country (regional level).

The top five largest gap dimensions, all with an aggregate score over three (3) or moderate were as follows:

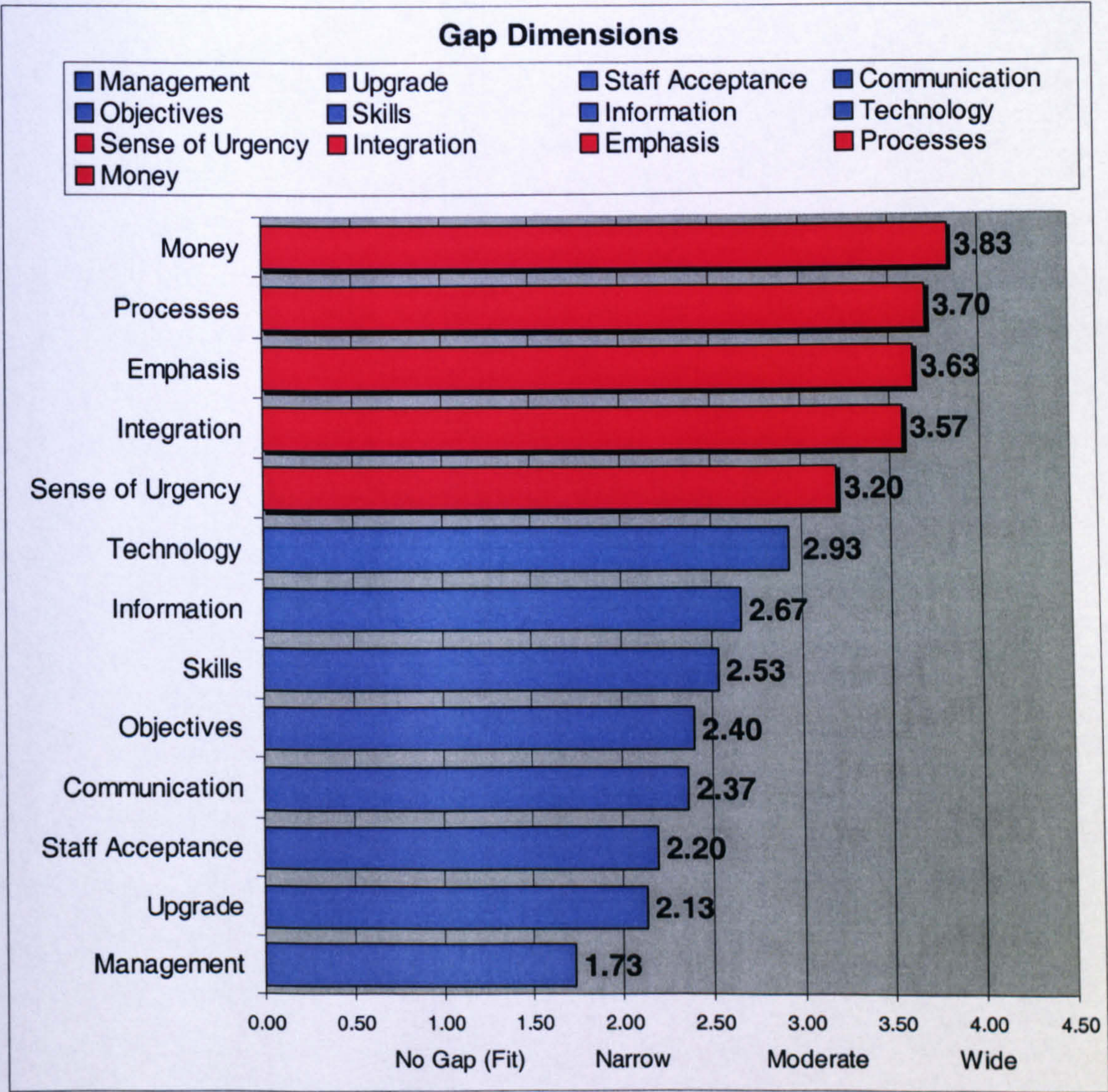
Table 6.3 Significant Gap Dimensions: Top Five

Rank	Gap Dimension	Score
1	Money	3.83
2	Processes	3.70
3	Emphasis	3.63
4	Integration	3.57
5	Sense of Urgency	3.20

All of the conception-reality gap dimensions examined and the corresponding gap measures are presented in Figure 6.7 below:

²² St. Lucia Tourist Board (SLTB), Grenada Board of Tourism (GBT), Barbados Tourism Authority (BTA), British Virgin Islands Board of Tourism (BVI), St. Vincent & the Grenadines Tourist Office (SVG) and the Caribbean Tourism Organisation (CTO).

Figure 6.7 Graphical Display of Gap Dimensions



Each of the dimensions above is discussed in Sections 6.3.1 to 6.3.10, below.

6.3.1 Money Dimension

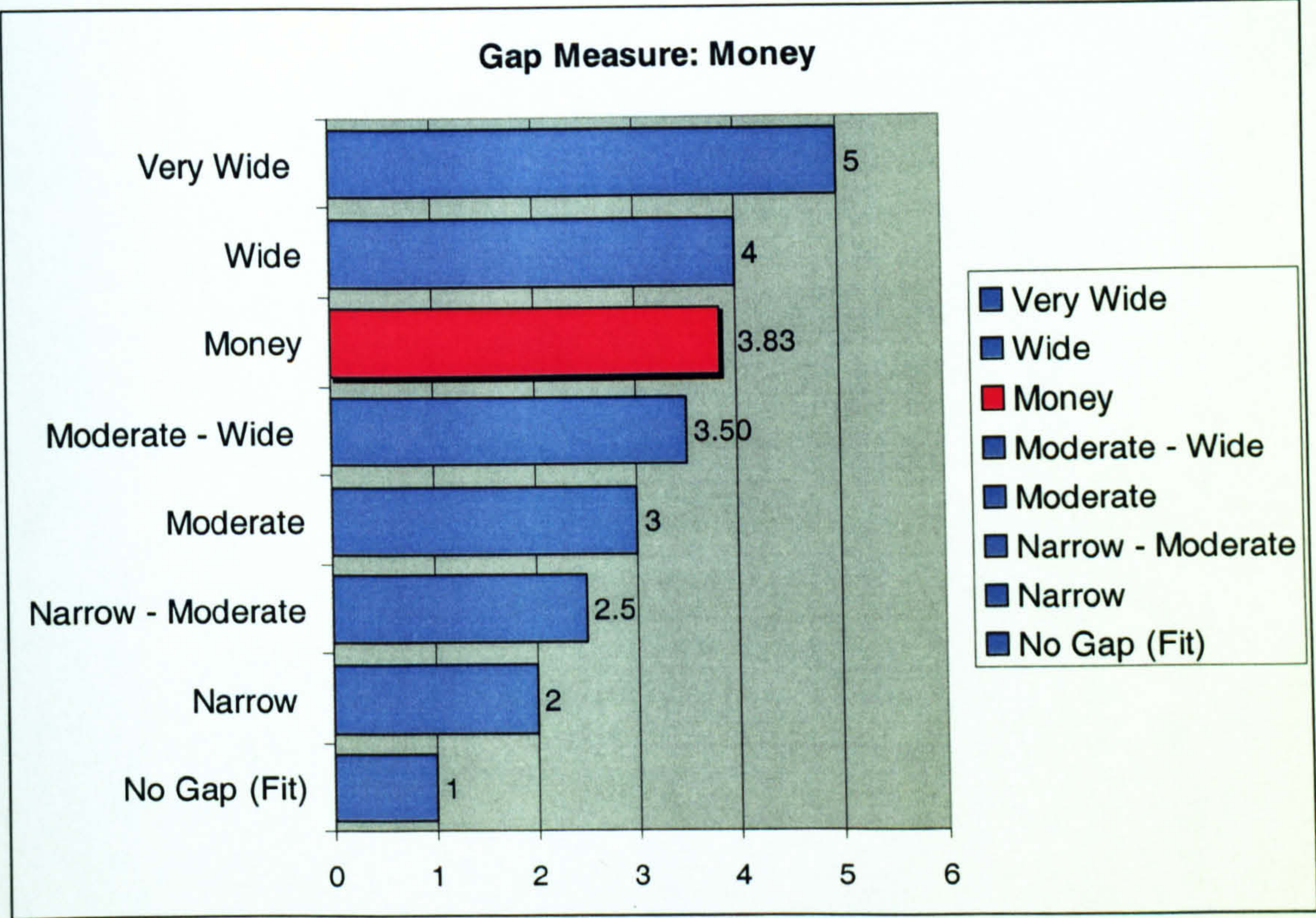
Two of the more fundamental and widely used measures of information systems implementation success are the delivery of specified functional objectives/user requirements within; (1) *budget* and (2) *time* (Lyytinen and Hirschheim, 1987). This section deals with the adequacy of financial resources with respect to the implementation of information and communications technology initiatives. It should be noted that most IT projects fail to meet the required objectives within the initial budgetary provision (Willcocks and Mark, 1989; Kling and Lamb, 1999).

Developing countries, having limited resources and relatively lower standards of living, are confronted with the pressing need to attend to the basic necessities of the populace (for example the provision of clean pipe borne water, electricity, poverty alleviation and related issues). This heightens the concerns with respect to the allocation of scarce financial resources for the implementation of information systems, and the significance of total or partial failures of implementation efforts.

This is compounded by the fact that, generally politicians and top management in many key institutions do not really understand the potential of information and communications technology and its role in organisational and national developmental strategies. Moreover, there is, at best, a tenuous and indirect impact, if indeed any is perceived at all, between expenditure on IT and a favourable outcome at the polls. As such, there tends to be merely token, verbal commitments, but with the outlay of financial resources, for information systems implementation initiatives, not nearly commensurate with the actual requirements.

The money dimension, illustrated in Figure 6.8 below, proved to be the most significant conception-reality gap, with an overall score of 3.83, - just short of the 'wide' category of 4.

Figure 6.8 Gap Measure: Money Dimension



This was reinforced by the qualitative data, as reflected in following statement by the Director of Information Management and Research for the CTO:

It [web-based initiatives] is viewed as an essential component, but when it comes to the *allocation of resources* to it...that's a different matter. Obviously, there cannot be a sense of its relative importance in terms of the allocation of resources...not only financial resources, but also personnel resources, training and all of these sorts of things...which of course goes back to the issue of *inadequate funding* (Sobers: Personal Interview).

Further evidence of this was reflected by the comments of many other respondents in semi-structured interviews. In order to establish a higher level of rigor to the qualitative data collection and analysis process, a data validation system was employed, which resulted in the development of 'validated gap assessments' with respect to the dimensions under investigation. A classification of the statements made during the course of the many semi-structured personal interviews conducted, with respect to the various gap dimensions was

done, on the same scale that was used for the survey instrument (No Gap/Fit, Narrow, Moderate, Wide and Very Wide). During follow-up visits to each Case Study site, the author’s categorisation of the respondents earlier statements on the various gap dimensions were discussed, as well as the essence of the ‘conception-reality’ gap model. Respondents were then requested to validate or confirm the ‘score’ or description given to their various replies. This process resulted in a *Validated Gap Assessment (VGA)* measure.

Some examples of this confirmatory qualitative data, with regard to the extent of the ‘financing’ or money gap are provided in Table 6.4 below:

Table 6.4: Conception-Reality Gap: Money

Quotations from Semi-Structured Interviews: (Qualitative Evidence)
The initial proposals from the companies were usually over our budget (Aymes: Personal Interview)
One of the main obstacles in adopting this new technology is the lack of financing (Warner: Personal Interview)
We need to put more funds into it, to ensure that it [web-based systems] can really be used in that way...it really requires a whole department that’s dealing with it and the resources need to be there to do that (Fowell: Personal Interview)
I have the vision for the role of IT in my organisation and the industry understands enough that they will work with it, [however] just getting the expertise and the resources, financing is a significant issue (Malone: Personal Interview).
Validated Gap Assessment: Wide

Based on the above, it is clear that the qualitative data supports the findings from the survey analysis with respect to the extent of the conception-reality gap on this dimension. The ‘Money’ dimension was therefore considered to be the most significant conception-reality gap with respect to the implementation of web-based systems. Based on the available data, the analysis was also extended to include measures undertaken to close this

gap. The following statements, from the extensive semi-structured interview process, provide an indication of the primary gap closing measures employed.

The initial proposals from the companies were usually over our budget, but they were usually amenable (in negotiations) and brought down the figures to what we could afford, so it was within budget (Aymes: Personal Interview).

We did not think of everything up front, costs for adjustments and additions were negotiated with the developers, who were quite flexible (Clarke: Personal Interview).

Support for the importance of the above as a gap closing measure, is found in the following:

The key to a good outsourcing experience and to closure of finance and skills gaps, beyond all other factors is a *good working relationship between in-house clients and the sub-contractor*. Contracts are important, but a good working relationship will overcome a bad contract far more often than a good contract will overcome a bad working relationship (Heeks, 1999: 83).

The range of gap closing measures for the ‘money gap’ can be summarised as follows:

Table 6.5 Gap Closing Measures: Summary

Dimension	Gap Closing Measures Undertaken	Approach
Money	Price negotiations, subsequent to contractual agreements	Change Reality
	Reallocation of NTO budgetary provisions	Change Reality
	Sensitization of key stakeholders and management	Change Reality
	Secured funding from International Donor Agencies	Change Reality
	Change of implementation approach to a more phased, gradual process	Change Proposal

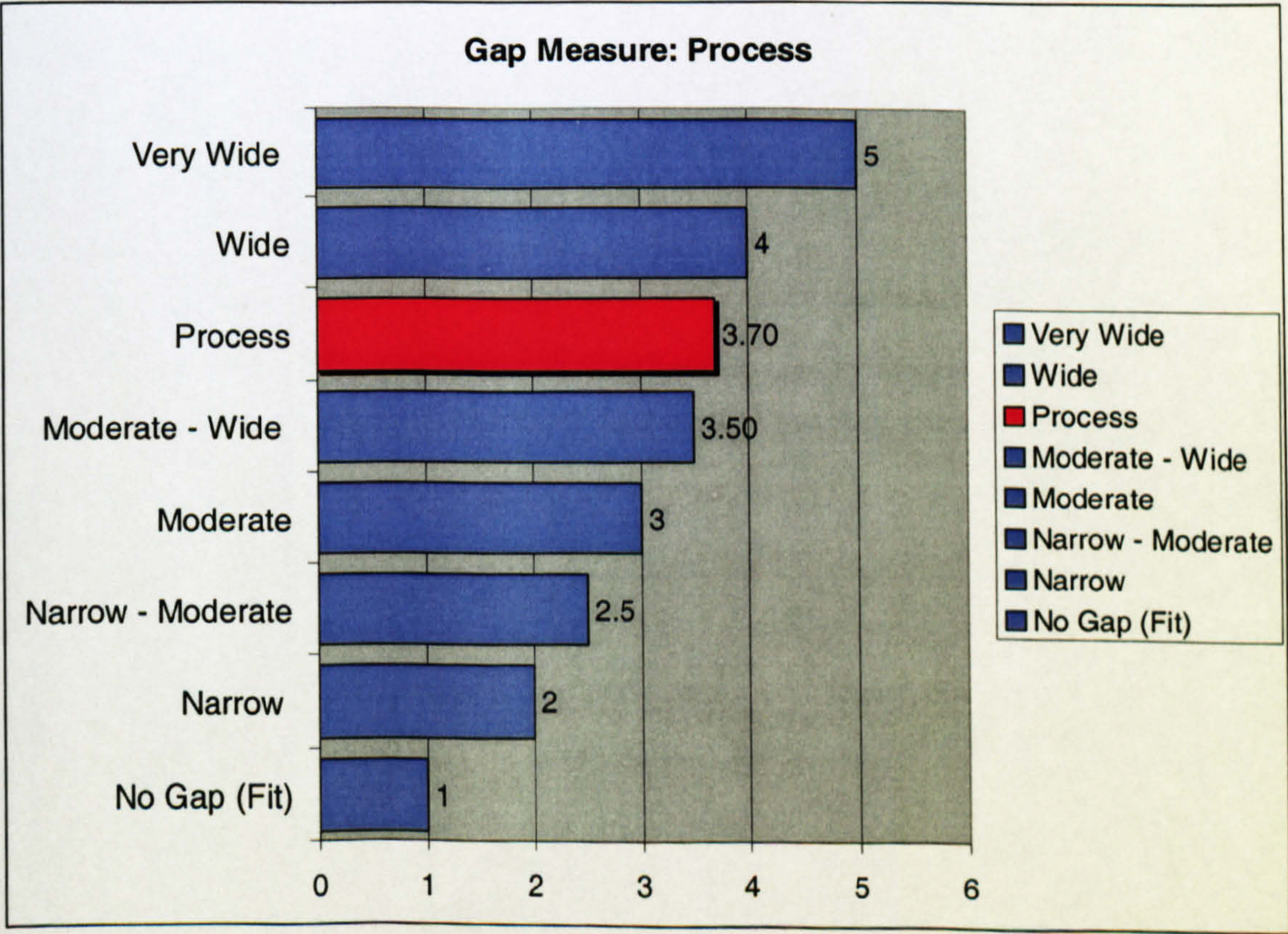
Conception Reality Gaps, which adversely impact upon the likelihood of implementation success, can be dealt with in several ways. The use of techniques to prevent the existence of large gaps, reduce gaps once they have been identified, by either; *changing the proposal to*

make it closer to the reality or *changing the current reality* to make it closer to the proposal (Heeks, 1999). Other options, at either end of the spectrum would be to *abandon the implementation* process altogether or *do nothing* and hope that the implementation will be successful notwithstanding.

6.3.2 Process Dimension

The second largest conception reality gap, portrayed in Figure 6.9 below, was that of ‘processes’. Respondents were asked to indicate the extent to which existing processes were adequate to support the implementation and use of the Internet and web-based systems in the organisation. Relevant processes include related administrative procedures, promotional and marketing operations, decision-making processes, and evaluation and monitoring processes. This was also treated, as a useful measure of the extent of process change which was required to enable the effective utilisation of the new information and communications technologies.

Figure 6.9 Gap Measure: Process Dimension



In this instance, the qualitative data also supported the above finding of a significant gap on the process dimension and the resulting Validated Gap Assessment was 'wide'. Some of the statements in this regard were:

The supporting organisational processes tend not to be in place (Coward: Personal Interview).

There are just a lot of complications with the e-commerce processes from our end, locally and it hasn't worked out (Fowell: Personal Interview).

There are all sorts of analyses that are not being done...evaluation and monitoring processes, for example (Sobers: Personal Interview).

We are not yet able to use feedback process to help to shape the information that we are putting out there (Sobers: Personal Interview).

In addition to the supporting administrative and operational processes, for the effective use of web-based systems, a significant deficiency was found to exist in the evaluation and decision making processes, with respect to web-based activities. This tends to result in decisions relating to the use of funds for the web site being very subjective and arbitrarily determined. In the absence of proper evaluation processes and a flow of relevant information to guide the decision-making processes, there is a distinct tendency towards simply following the familiar, traditional, marketing and promotional techniques and other related administrative processes.

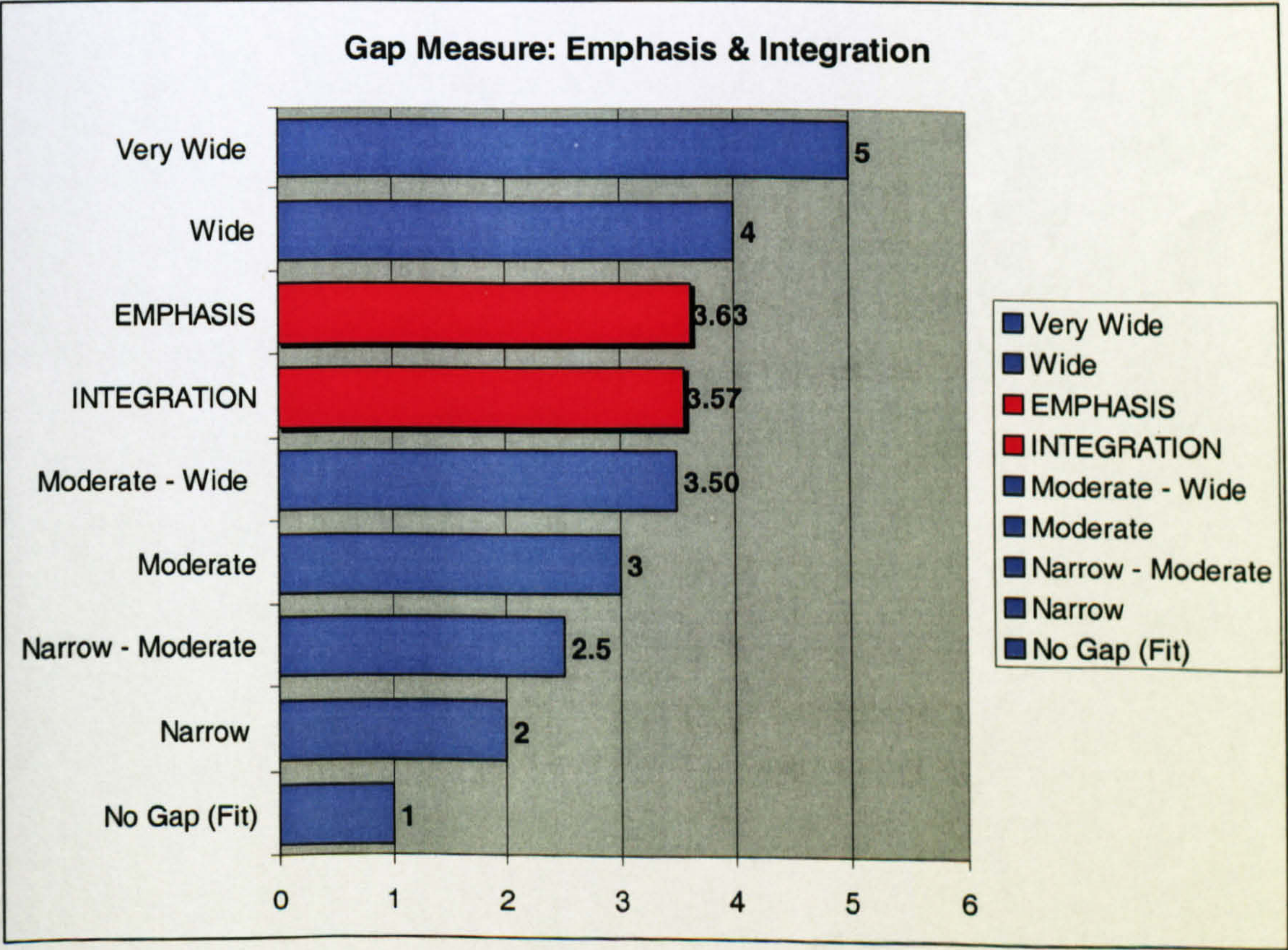
There was very little evidence of measures being adopted towards closing process gaps. A few notable exceptions, albeit at the very basic level were the documentation of processes with respect to the administration of the Caribbean Tourism Organisation Intranet; and the adjustment of the marketing and administrative processes in the North America market due to the closure of the New York office by the St. Lucia Tourist Board, supported by the use of the information and communications technologies.

6.3.3 Emphasis and Integration Dimensions

The emphasis and integration dimensions are closely related and both discussed in this section. Indeed, integration can be viewed as a function of emphasis. In other words, one of the consequences of adequate emphasis on the Internet and web-based systems, would be its integration into the organisations operations at various levels: strategic, tactical and operational. In this regard, respondents were asked to indicate the extent to which the internet and web-based initiatives is integrated with other organisational processes, and in particular marketing activities.

In separate items on the survey instrument, respondents were asked to indicate whether the Internet and web-based systems are given as much emphasis as the traditional marketing activities. It is noteworthy that these two dimensions had very similar scores, ranked next to each other, in terms of the extent of the conception reality gap, as indicated in Figure 6.10 below:

Figure 6.10 Gap Measure: Emphasis and Integration

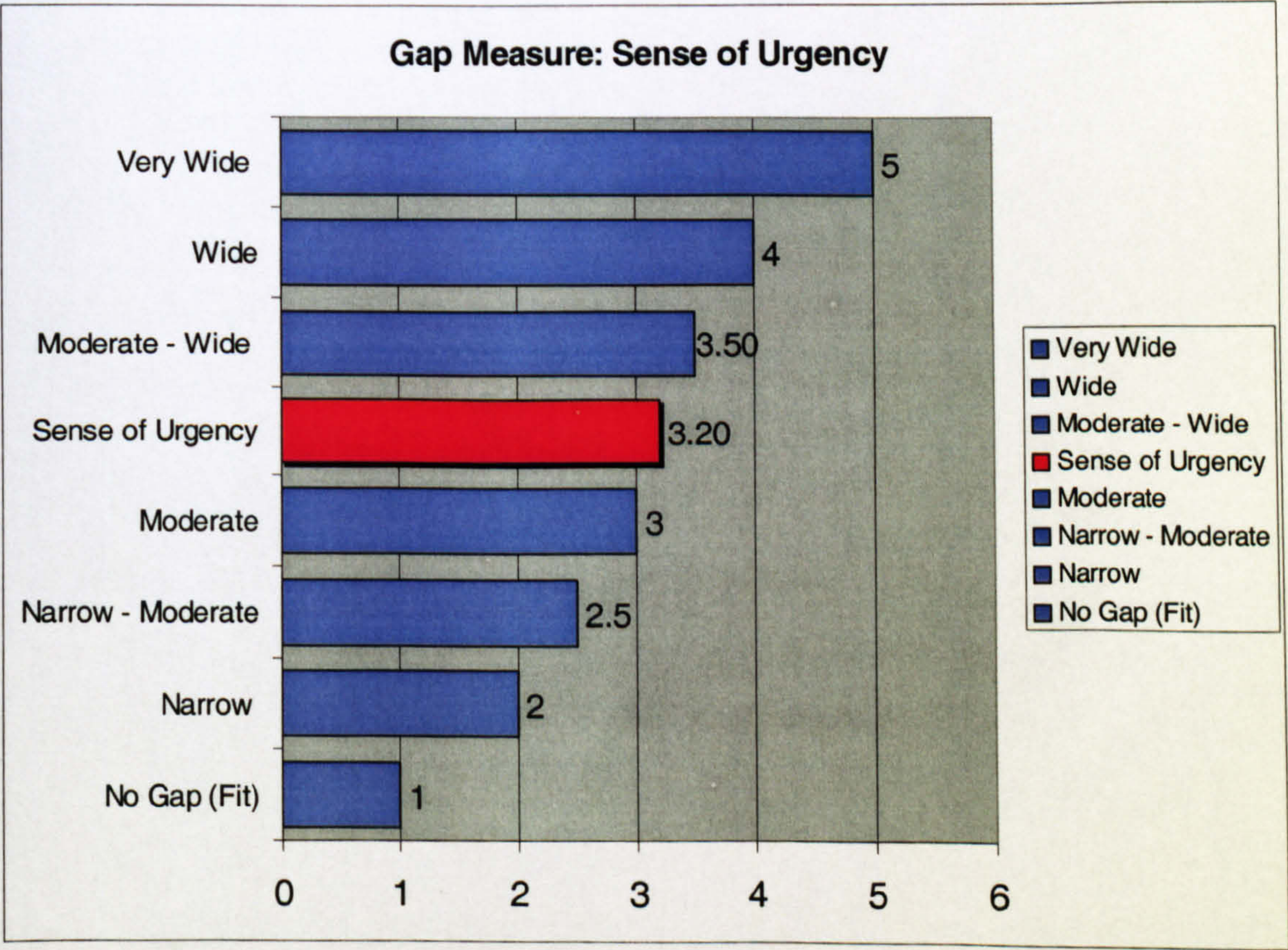


Detailed qualitative analysis on the level of integration noted in the course of the fieldwork undertaken, (presented in Section 5.5.1. above), indicates a similar finding, that of a notable deficiency, with respect to the level of ‘internal integration’ organisational change (Venkatraman, 1994).

6.3.4 People Dimension: Sense of Urgency and Motivation

Several items were used to assess the conception reality gaps with respect to the people dimension. This section discusses the sense of urgency, portrayed in Figure 6.11 below, with regard to the implementation and use of the Internet and web-based systems.

Figure 6.11 Gap Measure: Sense of Urgency



The score of 3.2 reveals that a moderate gap exists between the sense of urgency required for the successful implementation of web-based initiatives in the various NTO’s. The qualitative evidence from the semi-structured interviews and survey scores for the other

elements of the people dimension suggests, that, notwithstanding, the overall level of motivation, as distinct from the specific issue of the 'sense of urgency', was quite high, with a 'Validated Gap Assessment' score of 'narrow'. This is reflected by the following statements:

It has meant additional responsibilities added on... something that we are interested in and excited about doing (Clarke: Personal Interview).

Staff have adapted quite nicely, although we have the IT resource for support, we also assist each other. More or less everyone has accepted the changes and the technology. We never had resistance; everyone was willing and wanted to learn to develop themselves...Everybody is into it (McIntyre: Personal Interview).

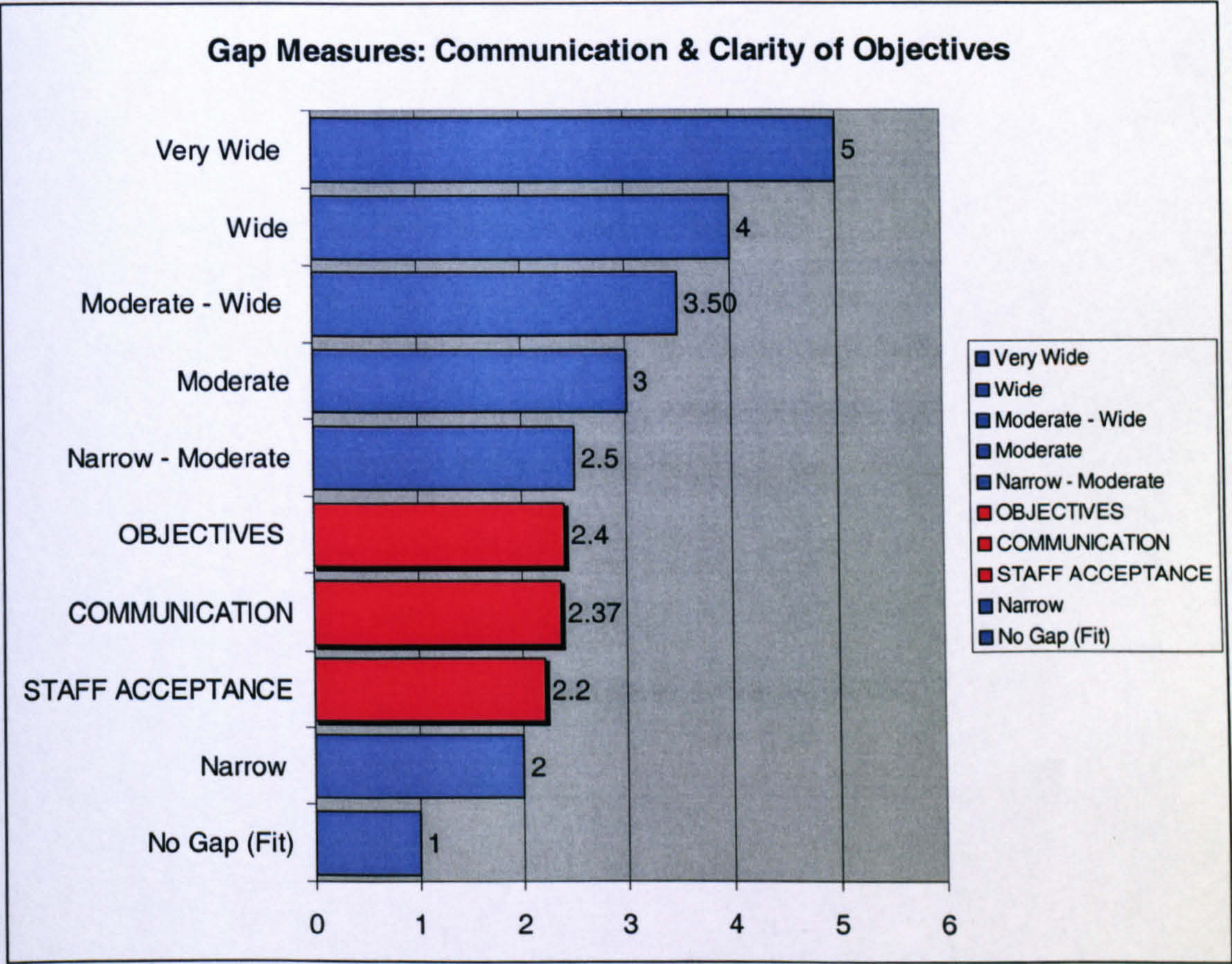
Our progress has been due to our excitement about the project, which was stimulated by our Manager's own excitement, Mr. Sobers. We have a manager that is involved in technology. So the success of the project has been in having a manager who was able to get together the right team, who had the same interest and then kept it stimulated by his own vision (Aymes: Personal Interview).

6.3.5 People Dimension: Communication and Objectives

Notwithstanding the moderate to wide gap for the 'sense of urgency' aspect of the 'People' dimension, there was a narrow gap level for 'staff acceptance' (2.2). This appears to be related or attributable to the narrow gap levels with respect to motivation (as outlined above), the clarity of objectives (2.4) and 'communication' (2.37) dimensions (illustrated in Figure 6.12 below), as well as to the high level of user participation (Table 6.6 below).

The key objectives for the adoption of the Internet and Web-based systems indicated by respondents across all of the case study sites were: the dissemination of destination information in a timely and cost effective manner; enhancing traditional promotional and marketing initiatives; creating a 'level playing field' with destinations which have far greater financial and other resources and reducing the extent of reliance on powerful intermediaries in major markets.

Figure 6.12 Gap Measures: Communication and Objectives



The likelihood of successful information systems implementation can be increased if all stakeholder groups participate in the systems development process (Barki and Hartwick, 1994; Ives and Olsen, 1984; Franz and Robey, 1986). This would undoubtedly result in narrower gaps on other related dimensions, in effect serving as a key ‘gap prevention’ measure with respect to aspects, such as ‘clarity of objectives’, ‘motivation’ and ‘staff acceptance’. The level of user participation was confirmed across all of the case study sites via the qualitative data collected and the use of the validated gap assessment procedure, and is outlined in Table 6.6 below:

Table 6.6 Conception Reality Gap: User Participation

Quotations from Semi-Structured Interviews: (Qualitative Evidence)

Validated Gap Assessment: No Gap-Fit to Narrow

Sobers...told people to start thinking about what they would like to put online, from about three months in advance ... when onecaribbean.org [the Intranet] was ready, we did training and showed them how to put things on (Carlos Wright: Personal Interview).

Most of the countries pulled together for the development of CTO's new web site...before we launched www.doitcaribbean.org, the member countries were involved in the design and participated in the process of selecting the developer and choosing some of the designs (Labonte: Personal Interview).

We saw everything that was discussed and agreed to, so it wasn't as if we were given our task and then we had to sit and wait until it was our turn...our input started from the design, making comments on the specific things, we were always involved and exposed to material... our preparation was fairly sound... [there was a] high level of interaction with the developers, and a chance for them to hear our views on the development of the site (Clarke: Personal Interview).

In terms of the more advanced, 'rationality imposing' aspects of the web-based systems, the evidence suggest that there is a more significant gap in terms of organisational climate (Holtham, 2001), *values* and culture (Heeks, 1999) and perceptions of complexity – how people think and feel about the technology (Van de Ven and Rogers, 1988). This was clearly evident in the comments made by several respondents with regard to the use of the Extranet and real time online discussion groups, in particular.

Some frank and insightful statements were elicited on possible reasons for the delay in the repositioning of emphasis to web-based marketing efforts, away from the more visible, 'meet and greet' methods, often requiring the participation of high level public sector industry officials in International Trade Shows and overseas meetings, for example.

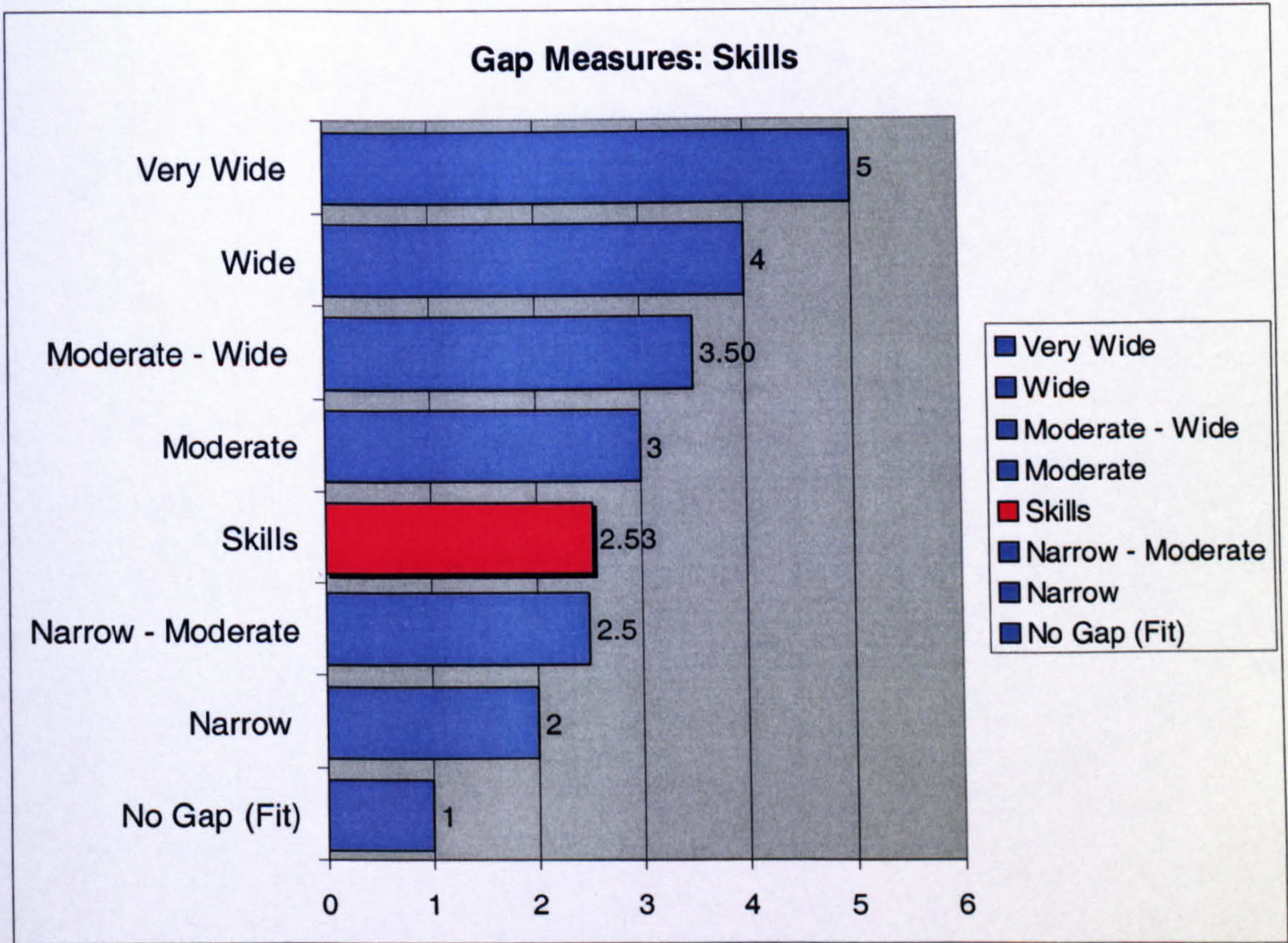
Ego tourism one of the ills that permeate Caribbean tourism. Some Ministers of Tourism don't know a damn thing about what is going on....those who run the Tourism industry use it as a propaganda tool, particularly in some of the Eastern Caribbean countries. It could be political, it is sometimes just somebody's pomposity, you are dealing with an industry that is high profile and some human beings in some of those governing countries have a greatly inflated view of themselves (Sobers: Personal Interview).

This is by no means to suggest that destinations ought not to have a presence at the annual travel and tourism trade shows and other forms of the traditional, 'travel oriented' promotional efforts. What does require urgent re-examination, however, is the relative emphasis placed on these activities, and the returns with regard to the comparative levels efficiency and effectiveness, when contrasted with web-based marketing efforts.

6.3.6 People Dimension: Staffing and Skills

Respondents were asked to indicate the extent to which the level of technical skills and expertise available was adequate for the adoption use of the Internet and Web-based systems. The score of 2.53 in Figure 6.13 below, denotes that the conception-reality gap is in the 'narrow-moderate' category.

Figure 6.13 Gap Measure: Skills



The qualitative data, as reflected by the validated gap assessment score of ‘wide’, however, strongly suggests the existence of a much greater gap level for this dimension. Table 6.7 provides some examples of the statements in this regard. It should be noted however, that the measures taken to address the skills gap seem to have been reasonable successful. These include, on the ‘change reality’ aspect: the use of external consultants, outsourcing and training for staff members involved in the implementation process. In some instances, proposals and plans had to be scaled back or deferred – ‘change conception’ – in order to bridge the wide ‘conception-reality’ gap as regards staffing and skills.

Table 6.7: Conception-Reality Gap: People: Skills

Quotations from Semi-Structured Interviews: (Qualitative Evidence)

Validated Gap Assessment: Wide

The lack of professional developers in-house inhibits progress to some extent (Sobers: Personal Interview).

There are people who are now getting on board [connected to the Internet], they don't have access or the level of access that they should have, so they are not as familiar with it [use of the CTO Extranet] (Coward: Personal Interview).

It would have been useful if we had in-house expertise to handle this sort of thing [CTO MIST] from the ground up and that we don't have (Sobers: Personal Interview).

The main thing is to have the personnel resources, that's the major constraint (Aymes: Personal Interview).

The problem is training, that's where the challenge is...training for senior management as well as the technical level (Sobers; Personal Interview).

Staffing is the main challenge to be overcome. We need an IT Manager...we also need some one to manage the web site and to input data on a regular basis (Brereton: Personal Interview).

The major challenge is getting the trained resources within the organisation...finding the expertise within the Caribbean is a big problem. We need a person that has an appreciation for marketing as well as the technology itself and it's hard to find...that's one of my biggest challenges, finding the expertise (Malone: Personal Interview).

The notable exception with respect to this dimension was Grenada. Not only was a comprehensive IT training programme conducted for all of the staff members "...from the Director to the Driver", the IT manager, from all accounts, has the right mix of skill sets:

It has helped that we have had Sam, who is very aggressive and assertive in getting things done and a plus for her is that she is not just a 'techie', she understands the creative side of the business as well (Roberts: Personal Interview).

A likely reason for the wide gap in the skills levels available is the rapid change in the basic economic activity in the islands and the failure of the education system to keep abreast. The fundamental transformation in the global economy, from 'industrial' to 'knowledge and information-based service' economies, discussed in Section 2.1.1 above, is clearly relevant in the consideration of this issue. Indeed, the transitory effect is perhaps more acutely felt as the Eastern Caribbean islands have not really gone through the 'industrial' stage, and are now required to move from a largely 'agrarian based' economic structure to a 'information-based service' structure.

Over the last ten years there has been a drastic fall off in the agricultural sector on the one hand and rapid growth or transition to the tourism sector on the other...but there is still a big agricultural force out there...a fella' cutting bananas all his life...you can't just take him and tell him to work in a hotel or in a Tourist Board Office. St. Lucia, for example, has made a really rapid transition, so rapid in fact that the labour hasn't been able to catch up (Sobers: Personal Interview).

The gap with respect to the staffing available, in light of the increased volume of work was also quite significant. Several respondents indicated that there was a substantial increase in the volume of work that they were required to do, as a result of the implementation and maintenance of the web-based systems. The high levels of motivation, user participation, communication and staff acceptance (Sections 6.3.4 and 6.3.5 above) would no doubt served to mitigate the possible adverse effects of this relatively wide gap between the volume of work and available resources.

The issue of the staffing and skills gap is clearly reflected in the following statement by the Secretary General of the Caribbean Tourism Organisation (CTO):

To effect the changes proposed in the Strategic Review, the recommendations about an increase in personnel at a skilled level have also to be accepted. These resource constraints, do not only apply in marketing. The organisation has a large and complex programme requiring highly skilled personnel to implement it and recruitment has not kept pace with growth of responsibilities and membership (CTO 2002 Annual Report: 12).

This is not only significant to the operations at the regional level - the CTO Headquarters, but also has direct impact on the operations of the National Tourist Offices (NTO's):

The increasing requests for delivery of technical assistance, requiring our personnel to travel to and spend time in member states [NTO's], have intensified the challenge...we have to [take] a serious look at the human resource issue (CTO, 2002 Annual Report: 13).

The overall relationship between the implementation of web-based information systems and the level of skills available is perhaps best summed up by the perspective shared by Sobers. In recounting an incident at a training session, of an employee of long-standing and who was extremely apprehensive about using the new system and "...acting like a bomb specialist in the process of defusing a highly explosive device", he declares:

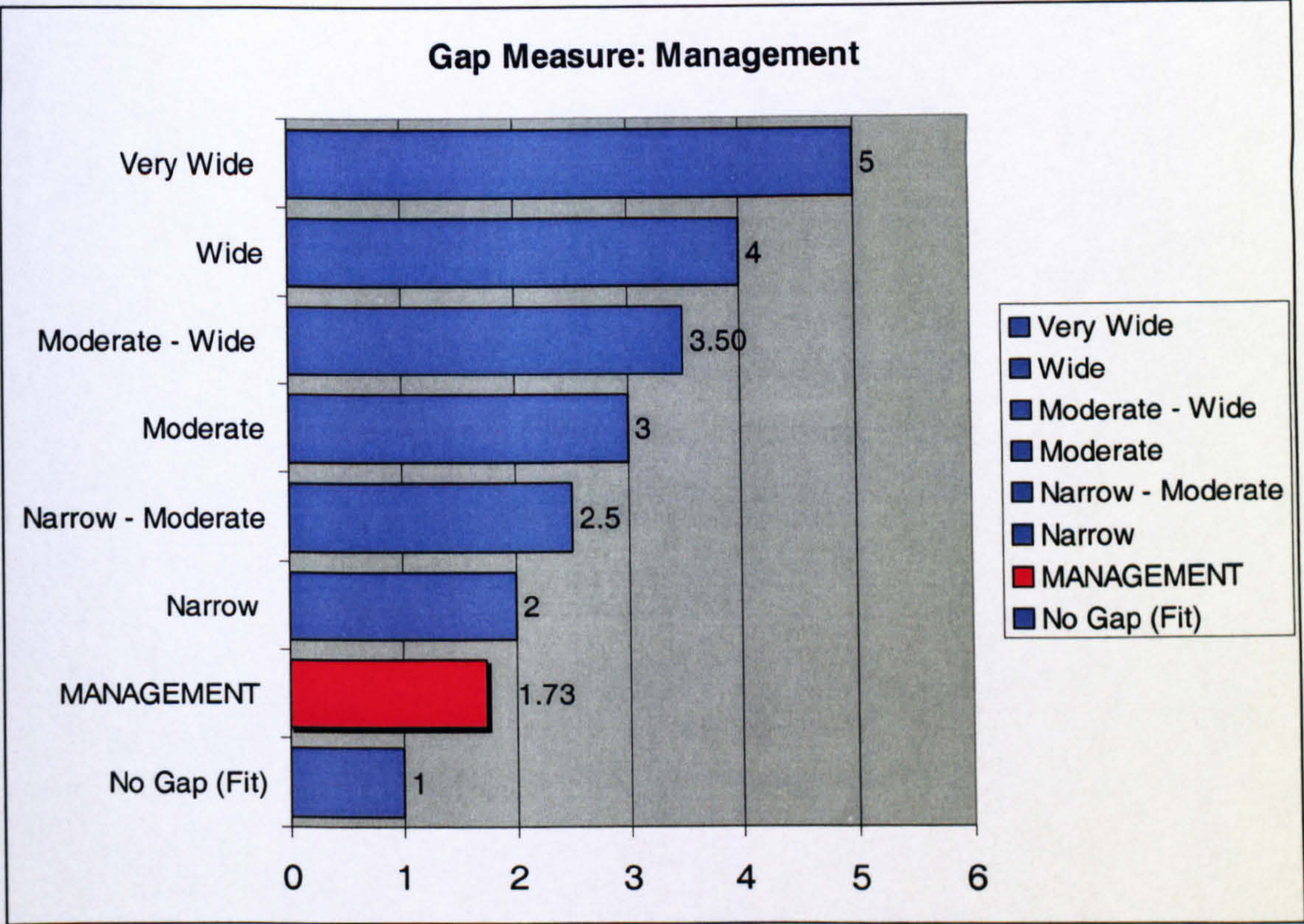
Sometimes we forget where we are coming from. It is very important that we remember that, as we design systems...because it means that there is an inevitable gestation period between coming up with a fancy system and for that system to be fully absorbed by the organisation. When we put a system together it is *those type people who have to operate it*. We do the necessary training, of course, but the conversion process wouldn't happen overnight. It is pretty important therefore that when we design and implement a system that can work against that backdrop, otherwise it just won't work (Sobers: Personal Interview).

6.3.7 Management Dimension

The conception reality gap on the management dimension was the narrowest, with a score of 1.73. It was actually the closest dimension to the No Gap (Fit) category (Figure 6.14 below). To some extent, this may be due to the fact that while informants came from a wide cross-section of the organisational structure of the various institutions) from Ministers and Directors of Tourism to Secretaries and Clerical staff), most tended to fall into the middle management category. This was primarily due to the fact that the technology has not diffused extensively and, as discussed earlier, it has not been integrated across organisational processes and structures to a great extent. Consequently, the pattern of adoption and use of the Internet and web-based systems tends to directly impact upon the functions of a limited numbers of persons, at the mid management level, within the

respective NTO's (primarily Marketing Managers, Information Systems Managers and Research and Statistics personnel).

Figure 6.14 Gap Measure: Management



A bias towards a favourable view of management may, therefore, be reflected in the above score of 1.73. In this instance triangulation with the qualitative data, presented in Table 6.8 below, proved extremely useful in deconstructing this particular dimension and filtering through to a more in-depth explanation, with a *greater degree of reliability and validity*. The qualitative evidence suggests that the favourable management score – the narrow conception-reality gap of 1.73 - is with respect to the ‘*management awareness*’ aspect, as it relates to decisions to *adopt* the relevant technologies. The qualitative evidence suggests, however, that a significant gap does exist with respect to ‘*management understanding*’, and the necessary commitment and actions which would lead to the *diffusion* and *integration* of these technologies into the operations and processes of the respective organisations. This is clearly supported by the wide conception-reality gap scores for the ‘process’ (3.70),

‘emphasis’ (3.63) and ‘integration’ (3.57) dimensions, ranked second , third and fourth respectively.

Table 6.8: Conception-Reality Gap: Management (Understanding)

Quotations from Semi-Structured Interviews: (Qualitative Evidence)

Validated Gap Assessment: Wide

It is due to the newness of the technology... the fact that particularly the senior management are not au fait with it...there is still some work to be done in this regard, it is not useful to try to pretend that these issues are all worked out (Sobers: Personal Interview).

They [management] say it is an essential component, but when it comes to the allocation of resources to it...that’s a different matter. There cannot be a sense of its relative importance in terms of the comparative allocation of resources (Coward: Personal Interview).

We are still at the stage where management is aware of it, but we still have to make management understand more about the value of Information Technology to the organisation...management tends to believe that once one has the computer and the web site, you put some money into creating the site, then that’s it (Labonte: Personal Interview).

The web-based systems implementation process and lifecycle are not well understood by management. They understand that it adds value to the promotion and marketing aspect, but in terms of putting the resources to support the entire implementation cycle...we are not there yet (Labonte: Personal Interview).

At the top level there is the recognition that the Internet is the way to go, but you don’t necessarily have an idea of what direction we should be going (Fowell: Personal Interview).

They [management] don’t fully understand the potential of the Web, they think it’s just some fancy thing that the techies want to do (Walton: Personal Interview).

The above table presents views that are representative of all the case study sites. The overriding conclusion from the above is that management has a basic level of awareness of the technology, but there is a lack of understanding, which translates into an inadequate

level of emphasis and resources (money being the widest gap dimension – 3.83) allocated to the Internet and web-based initiatives.

6.3.8 Technology Dimension

This aspect of the conception-reality gap deals with the availability of the required hardware, software, network and web-hosting infrastructure to enable the adoption and use of the Internet and web-based systems. This area is of particular significance, given the rapid developments in the field of information and communications technology (ICT) and increasingly strategic application of ICT in the tourism sector, and within the context of Destination Management Organisations, in particular. (O’Conner et al., 2001; Scott and Laws, 2001; World Tourism Organization, 1999). The assessment of the capabilities of the National Tourist Offices, in terms of the state of the current technological infrastructure, as compared to that which would be required for the successful operation of a fully web-based destination management system, is most significant.

The prospects for ‘leap-frogging’, with respect to generations or stages in the technological evolutionary process, also bears some consideration in this regard. The basic premise is that, since organisations in developing countries are usually not encumbered by legacy systems that the adoption to the newer platforms (based on client-server architecture) and applications (database driven web-based systems) would in some respects, place them at an advantage. This is largely due to the fact that the conversion process from existing systems and applications to newer technological platforms is often fraught with difficulties, for example, in areas such as data migration, compatibility and other connectivity issues.

On the other hand, however, the development of individual and organisational knowledge and skills, as regards the systems implementation and integration processes for example, through organisational learning and experience, would be lacking in the ‘leap-frogging’ process. This would pose a new set of dangers for organisations in developing countries, in

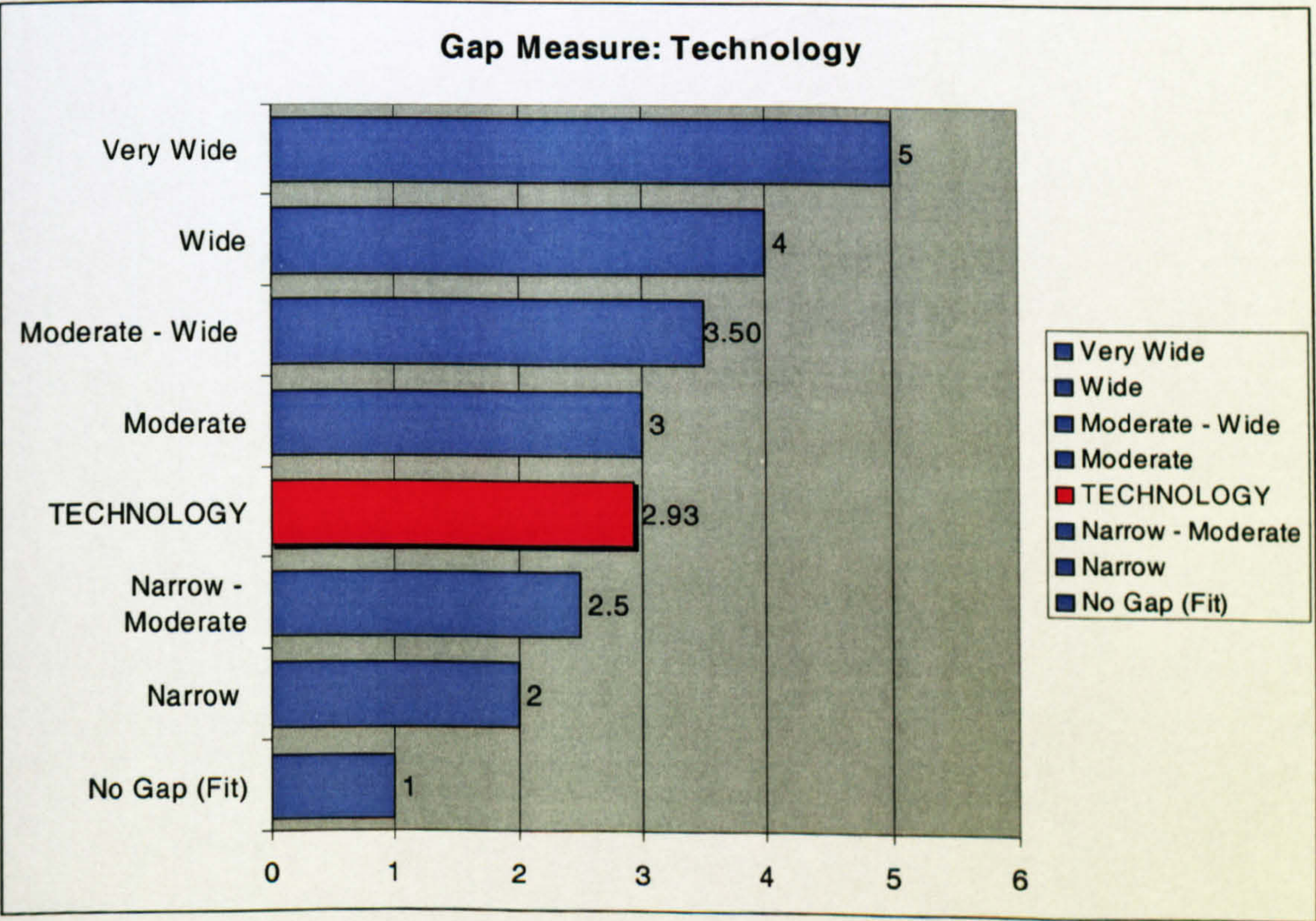
terms of the capacity to successfully implement and manage the ‘cutting technology’, not having been exposed to the more fundamental and rudimentary systems of previous computer generations and technology platforms.

In all of the National Tourist Offices (NTO’s), as well as the regional destination management organisation, there was evidence of substantial technological progress over the last decade, and they all seem to be successfully accomplishing the technological ‘leap-frogging’ process. An indication of the extent of the progress, which was characteristic of all of the case study sites, was articulated by Fowell, Deputy Director – Marketing for the St. Lucia Tourist Board:

When I first came into this organization, less than ten years ago, all we had were two electric typewriters...there were no computers and certainly no thought of a local area network (Fowell: Personal Interview).

The gap measure for the technology dimension was ‘moderate’, with a score of 2.93, displayed in Figure 6.15 below:

Figure 6.15 Gap Measure: Technology



The qualitative data, presented in Table 6.9 below, supports the above gap measure, albeit tending towards the ‘wide’ category.

Table 6.9: Conception-Reality Gap: Technology

Quotations from Semi-Structured Interviews: (Qualitative Evidence)

Validated Gap Assessment: Wide

There was something of an Intranet, called CTONet, which was on a totally different scale to this [the present Intranet/Extranet], not as grand and expansive (Coward: Personal Interview).

The back end database replaces a system that I myself wrote many years ago...CTO MIST [Management Information Systems for Tourism] is far superior in functionality and is based on modern technology (Sobers: Personal Interview).

What we had was an organisational information system founded on yesterday’s technology and...not reaching anybody (Skeete: 2001)

A major change was in regard to the technology used, from HTML to quite advanced technology, XML, PHP, SQL database...it’s quite a model for new technology (Aymes: Personal Interview).

Before the start of MIST, there were still some countries in the OECS that were doing all their tourism statistics by hand...tallying the various categories on a sheet of paper, adding them up and that’s how the official statistics were produced... from this manual process (Sobers: Personal Interview).

Prior to that there was no network; it was just stand-alone PCs being used primarily for word processing. With CTO pushing the MIST, a Server was needed, a network had to be implemented...now most of the content is database driven...the data is warehoused in the MIST and then it is exported to the Server. The same information is then fed into the web site (Hossle: Personal Interview).

Previously, we had just three points for dial-up access...we now have ADSL access through the server and everyone on the network has high-speed access. Internet usage and email is universal. We started off with email coming in at one point, which was then distributed, in printed form to the relevant persons (Hossle: Personal Interview).

6.3.9 Information Dimension

The information dimension relates to main characteristics of the data and information that comprises part of the implementation and maintenance of web-based systems of the National Tourist Offices (NTO's) investigated. The quantity and quality of web site content are the primary focus, with respect to the development, implementation and use of the web-based systems. The extent to which the data and information management activities were adequately handled, towards the fulfilment of the information requirements of users, forms the basis for the measurement of this aspect of the conception-reality framework.

The development process for web-based systems is characterised by a high level of data and information management, (also referred to as content management), in a wide range of formats: text, pictures, audio and video (Kalakota and Whinston, 1997; Oertel et al., 2001). There was very little disparity between the *information needs* of the various stakeholders targeted (prospective visitors, travel press, media personnel and travel and tourism industry personnel) and the actual provision of information online. As discussed in Section 5.4.1 above, the information quadrant of the ICDT model is the most extensively utilized virtual space and the supply of information is in response to a clear and ongoing need.

The correlation between the tourist arrival patterns and the use of the Eastern Caribbean NTO web sites suggests that the web site content was also useful to prospective visitors and that concept of providing destination information online fits with the reality, both internally and in the market place. As illustrated in Figure 6.3, Section 6.1.1. above, the deficiency lies in the mode or format utilised (static, text and picture based, as opposed to the use of interactive, multimedia formats), reality supporting versus rationality imposing, respectively.

Another key issue identified in the analysis of the information systems implementation process was the sheer volume of data that had to be dealt with. It was certainly beyond the initial assumptions and expectations of the implementation team. The collection and compilation of the required data and the posting of content proved to be far more arduous

and time consuming, than anticipated. The primary measure used to close this 'conception-reality' gap, included the use of a more widespread distribution of responsibility for content management than was originally planned. In the case of the Caribbean Tourism Organisation Intranet/Extranet, however, the Corporate Communications Manager was assigned the full time responsibility as Intranet Administrator, from March 2002, and a new Communications Manager hired.

In addition to the initial task of managing the data and information in the implementation stages, the ongoing management of content for the web-based systems is critical. A widely recognized critical success factor for web sites in the availability of up-to-date and relevant information (DeConti, 1998; Goldstein and O'Conner, 2000). This is particularly applicable in the tourism sector where the use of DMO web sites is primarily for pre-trip planning and destination information, and as such the relevance, accuracy and currency of information are paramount considerations. While the score for the conception-reality gap measure for the 'upgrade' dimension was quite low - 2.13 (see Figure 6.7 above), the qualitative evidence suggests that a greater disparity exist (primarily due to staffing constraints and structural weakness, discussed briefly in Section 6.3.10 below) in the 'concept' of up-to-date online information and the existing 'reality'.

6.3.10 Structures Dimension

This dimension of the conception reality gap was inadvertently left out in the survey instrument utilised during the data collection phase. Nevertheless, qualitative data was collected and analysed for this dimension. It was found that the organisational structures, at the level of the CTO and the NTO's, were somewhat deficient. This can be attributed to the lack of management understanding of the potential of the Internet and web-based systems, leading to inadequate levels of funding and a delay in setting up the required organisational framework to effectively manage this rapidly emerging area.

Table 6.10: Conception-Reality Gap: Organisational Structure

Quotations from Semi-Structured Interviews: (Qualitative Evidence)

Validated Gap Assessment: Wide

We are not an internet unit, we still have our other responsibilities, and managing what we had to do on the site for development and what we have to do in the future... in addition to our core duties is a major challenge (Clarke: Personal Interview).

One of the challenges has been that the Internet is not been perceived as needing a team within the organisational structure dedicated to managing it (Clarke: Personal Interview).

In all of the National Tourism Offices there isn't any one department or person responsible for Internet marketing and sometimes that's why it falls through the cracks (Fowell: Personal Interview).

We started off very ambitious to be able to have online booking...it got very complicated. We would definitely need to have a separate department to just handle contracting and dealing with suppliers and so on (Fowell: Personal Interview).

Notwithstanding the organisational level deficiencies with respect to the structure required for the effective management of web-based systems, all of the islands seem to have the basic industry level structure in place. This is primarily due to the establishment of the national tourist office as a statutory body, with some measure of independence and flexibility, outside the sphere of the central public sector operations. The exception in this regard is St. Vincent and the Grenadines, where the destination management functions are undertaken within the Ministry of Tourism.

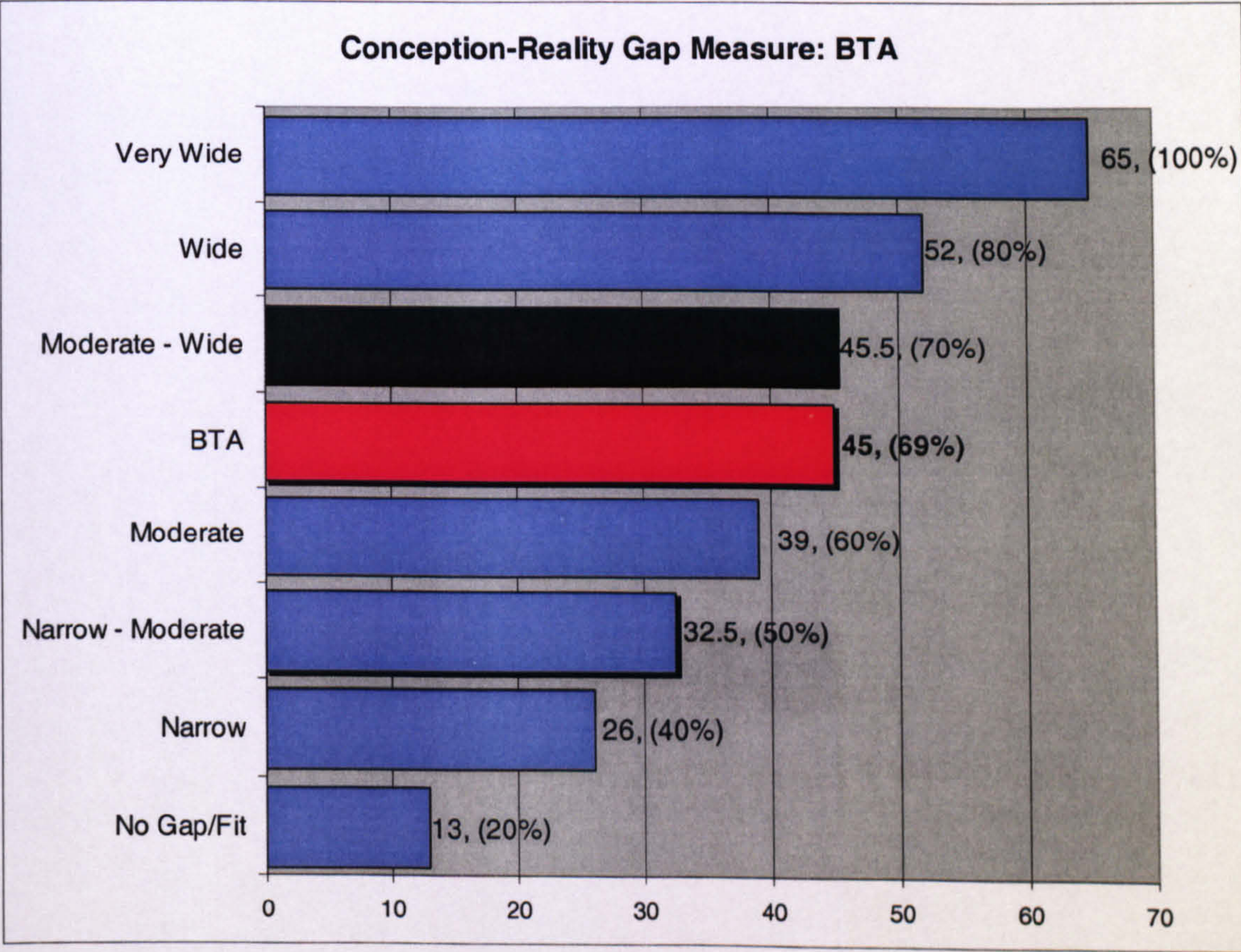
Analysis of the conception reality gap dimensions was also done on the basis of the four case study sites. The unit of analysis in the following Section, 6.4, is therefore at the level of the respective *organisations*, the national tourist offices.

6.4 Conception Reality Gap Analysis: Sites

6.4.1 Barbados Tourism Authority

The overall gap score of forty-five (45) or sixty-nine percent (69%) of the total possible gap width, illustrated in Figure 6.16 below, meant that the Barbados Tourism Authority (BTA) had the largest conception- reality gap among the four sites. Based on the scale used, this was categorised as a ‘moderate to wide’ conception reality gap measure.

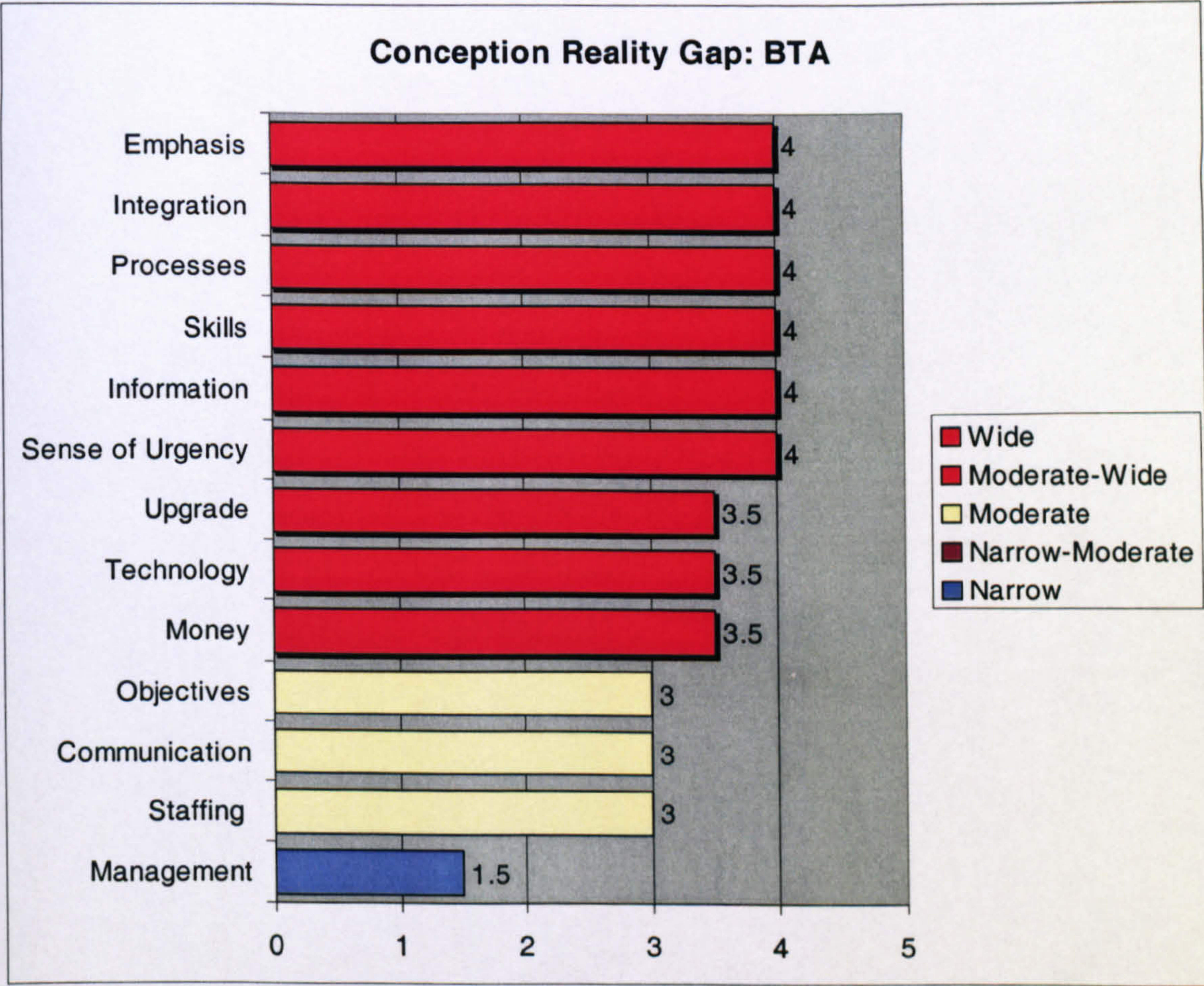
Figure 6.16 Conception-Reality Gap Measure: Barbados Tourism Authority (BTA)



With the exception of the ‘management’ dimension, all of the conception-reality gap dimensions proved to be significant for this site, falling into the range of moderate to wide. There is a high level of dissatisfaction with the web-based developments within the organisation. This can be attributed largely to the difficulties in arriving at a resolution of the ownership rights to the web site - www.barbados.org, between the NTO and the

company which handles the organisation’s web site in an outsourced arrangement. This issue was cited by respondents as the primary barrier to the web-based developments within the organisation. The individual gap dimensions for the Barbados Tourism Authority are indicated in Figure 6.17 below:

Figure 6.17 Gap Dimensions: BTA

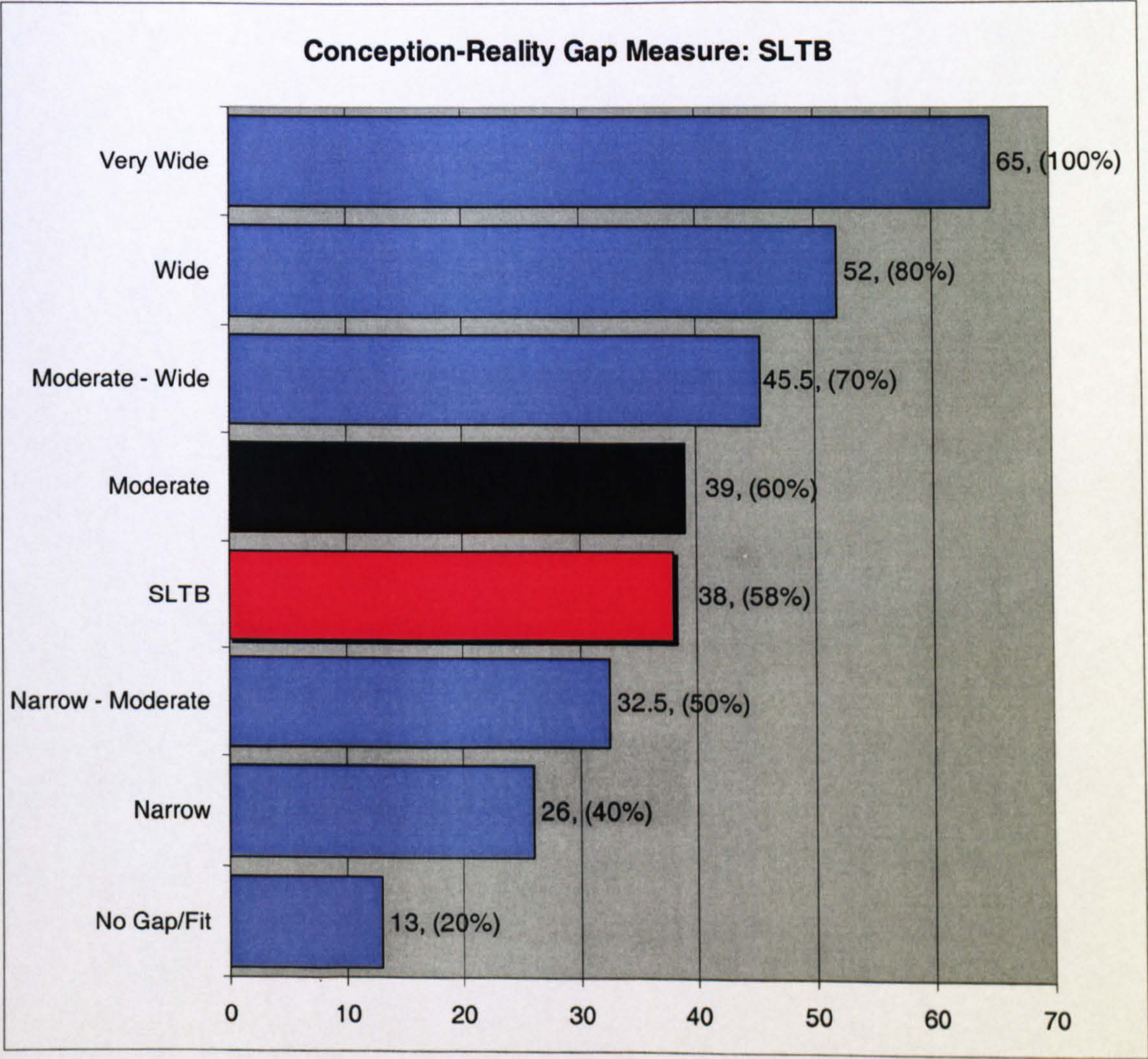


Some of the other factors which may explain the extent of the gaps and the pattern reflected above are: the limited number of respondents for this site; the mix of informants was almost exclusively management orientated; historically the destination has been consistently very successful, in terms of visitor arrivals, and may therefore not feel much pressure or urgency in adopting newer methods; and there is a much greater degree of reliance on the ‘tour operator based’ UK, as opposed to the more ‘independent traveller driven’ US market, which accounted for just twenty-one (21%) of visitor arrivals to the island in 2001.

6.4.2 St. Lucia Tourist Board

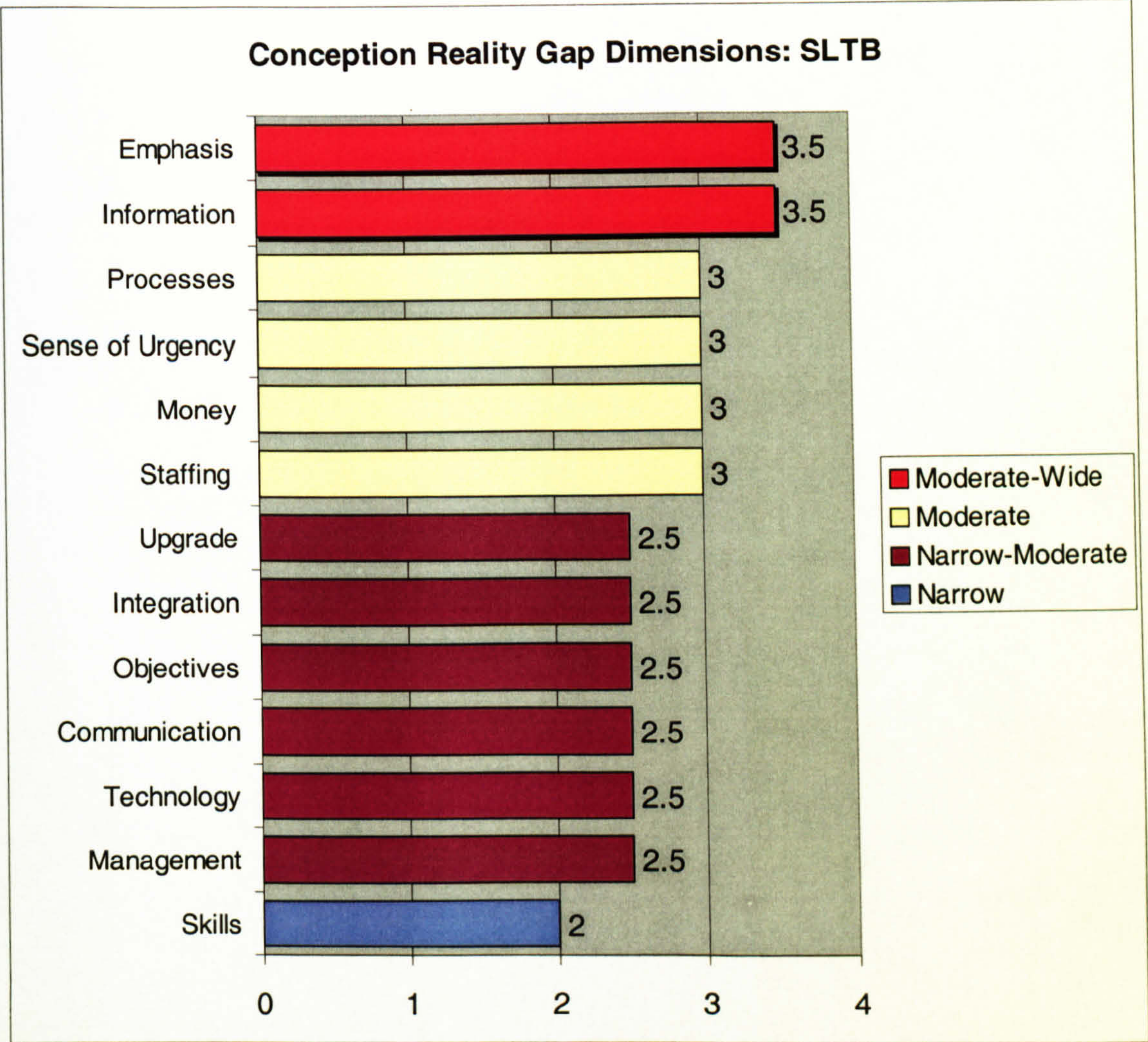
The overall gap dimension for this site was thirty-eight (38), portrayed in Figure 6.18 below. This represents a moderate score, in terms of the extent of the conception reality gap across all of the thirteen dimensions measured for the SLTB.

Figure 6.18 Gap Measure: St. Lucia Tourist Board



The specific conception reality gap dimensions for the St. Lucia Tourist Board are outlined in Figure 6.19 below:

Figure 6.19 Gap Dimension: St. Lucia Tourist Board (SLTB)



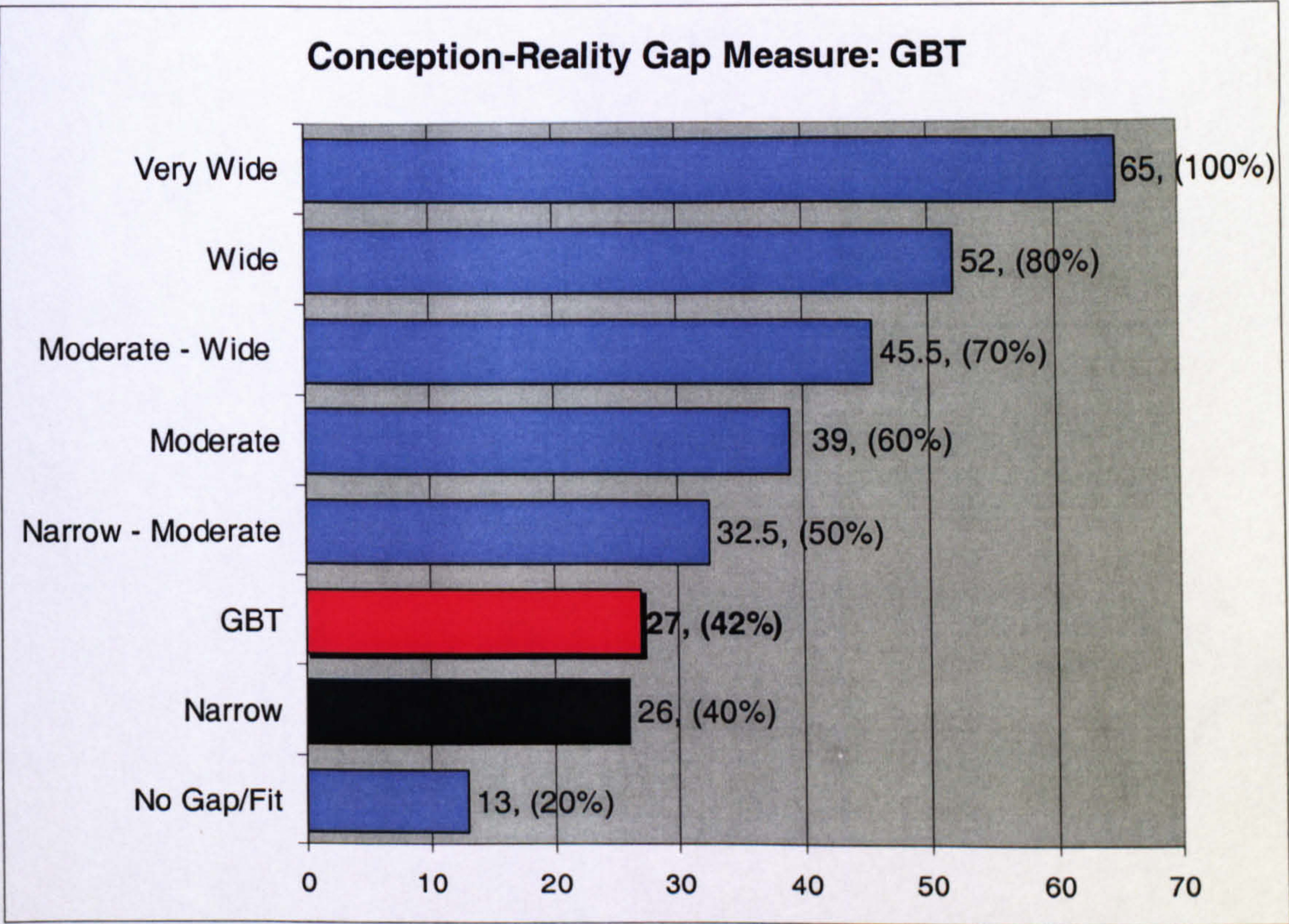
The significant gaps above, with the exception of the ‘information’ dimension, are consistent with the pattern in the overall gap dimensions found in the variable led analysis presented in Section 6.3.

<u>Top Five Gap Dimensions</u>	<u>SLTB Rank</u>	<u>Overall Rank</u>
Emphasis	1	3
Information	1	7
Processes	2	2
Sense of Urgency	2	5
Money	2	1

6.4.3. Grenada Board of Tourism

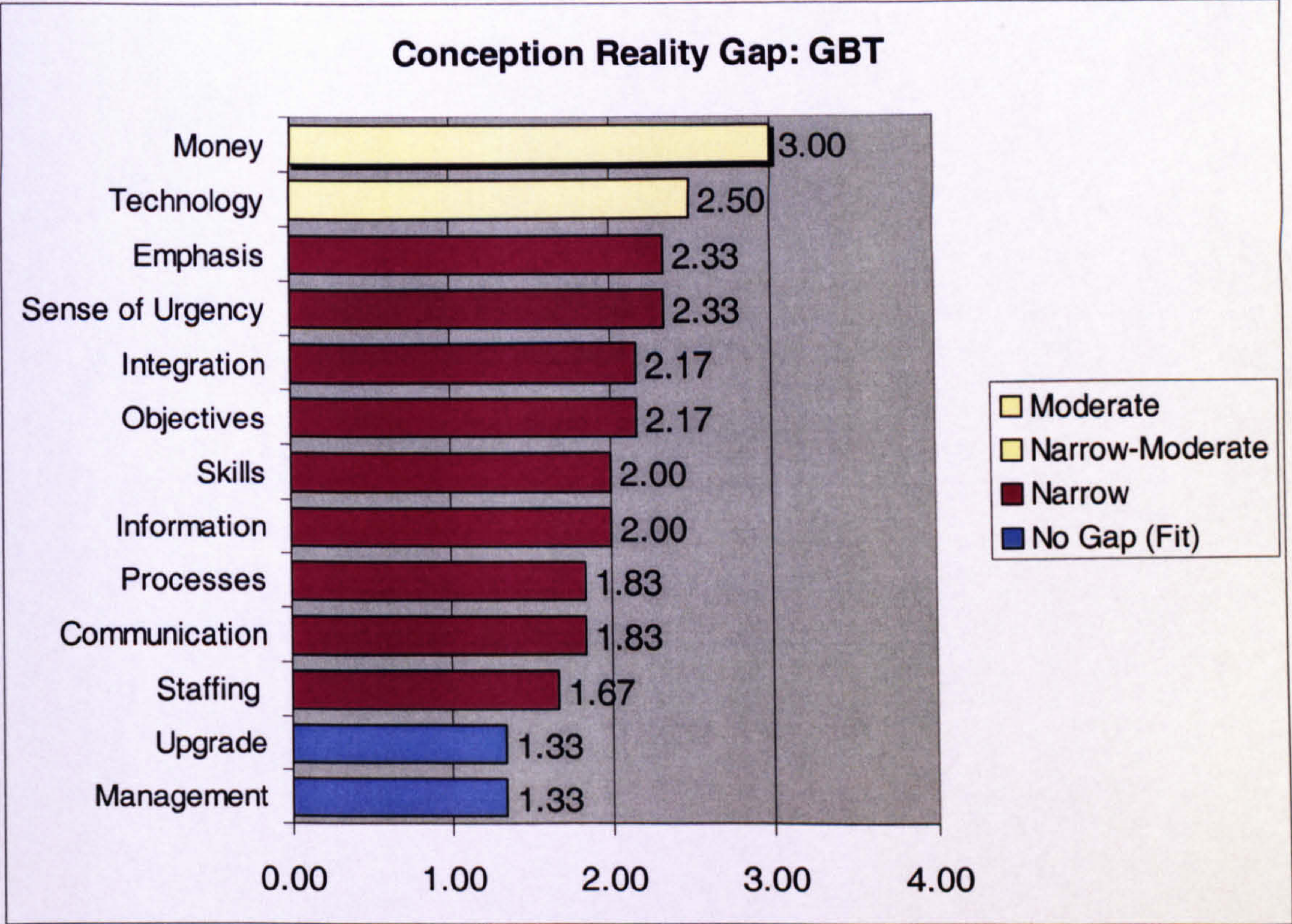
The score for this organisation was the lowest among the case studies as indicated in Figure 6.20 below:

Figure 6.20 Gap Measure: Grenada Board of Tourism (GBT)



An analysis of the individual gap dimensions for this site, illustrated in Figure 6.21 below, indicate the narrow gaps found for most of the items, which would have resulted in the low overall score. Also, four of the top five gap dimensions for the GBT, are consistent with the findings for the SLTB and the overall dimension gap analysis (that is, with the GBT rankings below of Money -1, Emphasis - 3, Sense of Urgency - 3 and Integration - 4).

Figure 6.21 Gap Dimensions: Grenada Board of Tourism (GBT)



The most notable feature with respect to this site is that with the exception of the money and technology dimensions, all of the areas were in the ‘narrow’ range (from 1.33 to 2.33). This can be accounted for by the strong influence of certain organisational and technological *enablers*. These are outlined below:

Organizational

1. Reallocation of funds from other areas;
2. Management awareness, understanding and support;
3. IT training for all staff;
4. Excellent outsourcing arrangement;
5. Strategic planning employed at various levels; and
6. Cross-department coordination of web activities.

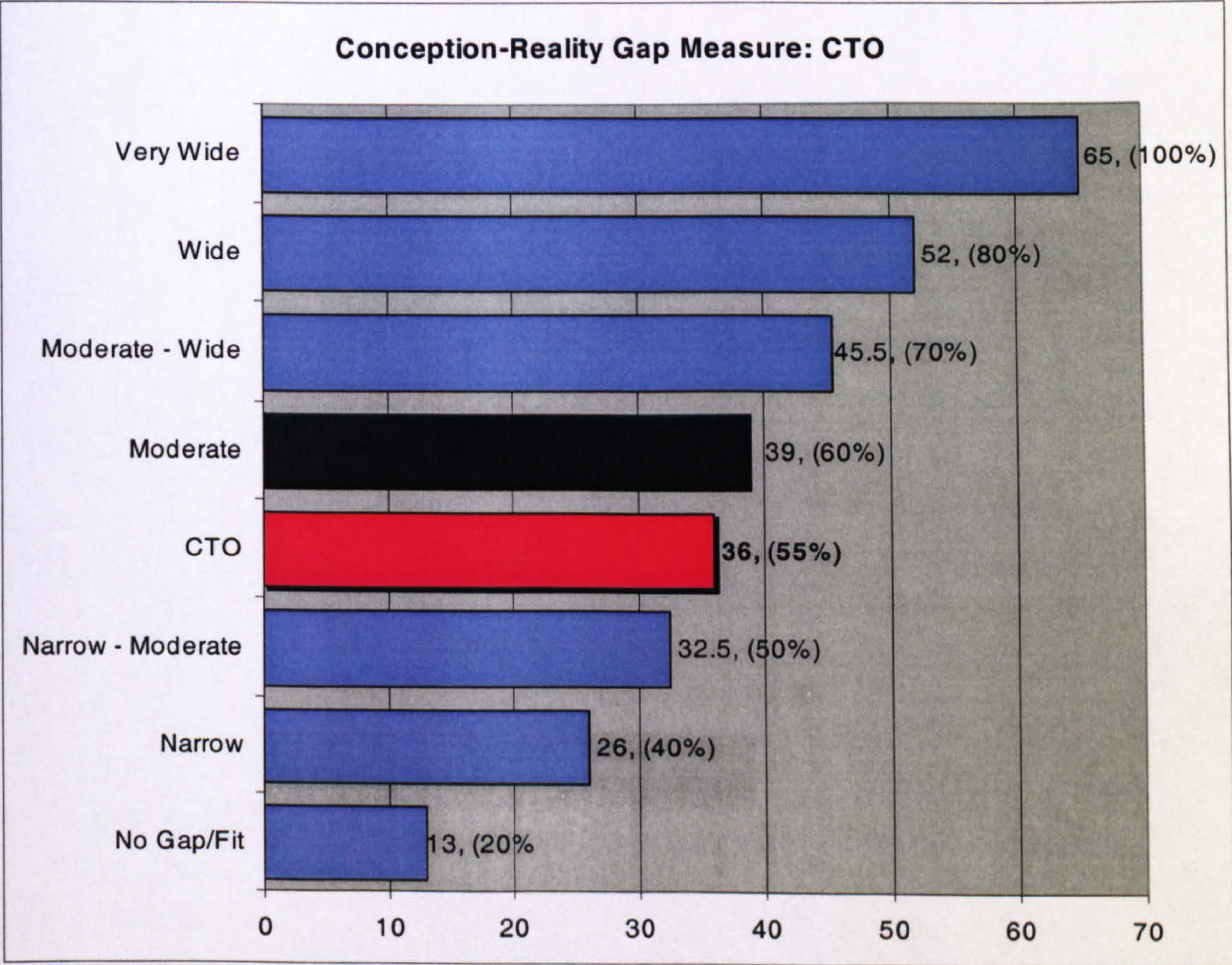
Technological

1. Impact of CTO initiatives: MIST, Extranet/Intranet and OECS assistance project;
2. Strong IT manager, affordable broadband access; and
3. Aggressive site promotion & search engine optimization programme

6.4.4 Caribbean Tourism Organisation

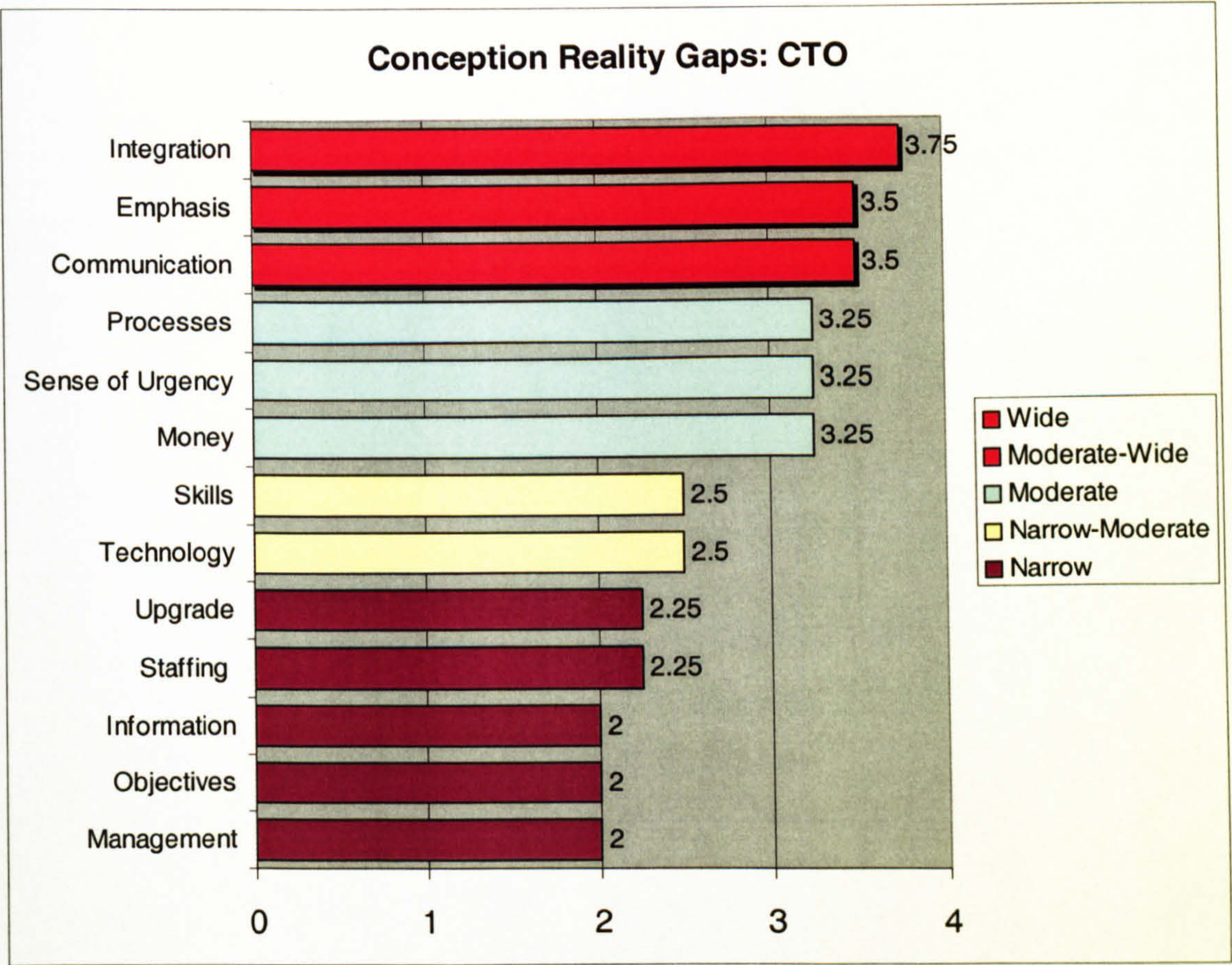
The overall conception reality gap for this site was found to be ‘moderate’, with a score of thirty six (36) or fifty five percent (55%) and is illustrated in Figure 6.22 below:

Figure 6.22 Gap Measure: Caribbean Tourism Organisation (CTO)



The analysis of the individual conception-reality gap dimensions for the CTO (Figure 6.23 below) revealed that the largest items were, with a few exceptions, very similar to the overall pattern, as well as to that of the other sites.

Figure 6.23 Gap Dimensions: CTO



The following penultimate, chapter examines the research findings and analyses presented in Chapters Five and Six, in light of the research questions and hypotheses put forward earlier. The contributions of the study, in particular to industry practice, public sector policy in the tourism industry and the theoretical implications are also discussed.

7. Discussions

7.1 Research Questions and Related Hypotheses

One of the major research questions which guided the thesis deals with Internet adoption patterns and the level of advancement of web-based systems. The two aspects of this question can be expressed as follows: research question (1a): what is the Internet Adoption pattern in the Tourism Industry in the Eastern Caribbean?, and secondly, research question (1b): what is the level of advancement, with respect to the objectives - operational and strategic - and technological development, of the NTO Web Sites in the Eastern Caribbean? (Angehrn, 1997; Powell, 1998).

The initial hypotheses with respect to each of the above parts of this research question were as follows: hypothesis (1a): Internet adoption is widely diffused in the tourism industry in the Eastern Caribbean, and; hypothesis (1b): web sites are at the low end of the complexity spectrum and are simple, "static" sites, focusing largely on information provision and promotion, as opposed to complex, 'dynamically created sites' or 'web-based software applications', utilized for Transaction and Processing type activities (Powell, 1998; Angehrn, 1997; Burgess, 1998, 2000).

It was found that there are fairly wide levels of Internet adoption and diffusion throughout the tourism industry in the Eastern Caribbean, in both private and public sector organisations. The main area of deficiency is with respect to the smaller accommodation providers, where there is a much lower level of internet presence by Guest Houses and Apartments. While Internet adoption is relatively high, most web sites and web-based systems still have a limited focus on basic information provision and communication, as opposed to distribution and transaction oriented activities. This is consistent with findings elsewhere, that destination management organisation value chains are strong on destination information and weak on transactions (UNCTAD, 2002; World Tourism Organisation, 2001; Gretzel, Yuan and Fesenmaier, 2000).

The web sites are predominately 'pure static' sites and 'static sites with entry forms'. Increasingly, the Eastern Caribbean tourism web sites employ 'dynamic data access', for example search facilities, but have not advanced to the level of 'dynamically created sites' (personalised web pages) or 'web-based applications' (Powell, 1998). The CTO Management Information System for Tourism (MIST) and the CTO Intranet/Extranet, are the primary exceptions in this regard. These applications undoubtedly have tremendous potential, if successfully implemented and diffused; to serve as a major catalyst to the advancement of the technology platforms of public and private sector web-based systems in the Eastern Caribbean.

Consequently, both aspects of the hypothesis above: (1a) and 1b), were confirmed and validated. The main contributory factor with respect to the reasonable high level of Internet penetration (Hypothesis 1a, above) was the favourable telecommunications environment, in light of the recent liberalisation of telecommunications services in the Eastern Caribbean and the high level of *basic awareness* and the initial pursuit of an eager 'me-too' strategy in the early stages of the adoption of an Internet presence. Advancement of web developments seems to be constrained primarily by a lack of management *understanding or knowledge* of the full potential of the technologies, which results in inadequate allocation of funds and a low sense of urgency and emphasis to this area. Other key obstacles to the systems implementation process are discussed below, in terms of conception-reality gaps (Research Question 4, below).

Another critical area which accounts for the slow progress of web-based developments is the absence of broader strategic frameworks to guide, shape and give further impetus to the related technological initiatives. One of the research questions centred on the issue of whether Eastern Caribbean NTO web-based systems is being developed within a broader strategic framework. That is whether, in addition to functional level strategies (e-business, Information Systems and Marketing), the use of corporate, industry and national policies, strategies and plans, were employed.

The basic premise of this question is that desired levels of progress and deriving optimal benefits from the introduction of information systems (IS) in Eastern Caribbean NTO's can only be achieved if these IS are developed and implemented in the context of a strategic plan (e-business strategy), which serves to support, drive or extend other broader strategies (Porter, 2001; Galliers and Swan, 1999). Findings in the management of tourism literature, also suggests that long term planning and strategy, in relation to the strategic use of information technology is an essential prerequisite for success (Moutinho, 2000; Vaughan, Jolley and Mehrer, 1999; Buhalis, 1998).

Hypothesis (2) stated that: web-based systems and e-business activities are being developed and implemented in an ad hoc manner and are not systematically planned or developed within a broader strategic context. The strategic frameworks of Chaffey (2002) and Kettinger and Hackbarth (2000) in Turban et al. (2002) were extended to fit the context of the present study. It was found that, for the most part, the National Tourist Offices are at the 'experimentation' stage, with very little integration of strategies across the various levels and in many instances, the complete absence of a strategy, policy or plan, at the organisational, industry or national levels. Hypothesis (2) was therefore confirmed, with the conclusion that the web-based systems in the National Tourist Offices are, for the most part, not being implemented within a broader strategic framework.

A related research question dealt with how existing business processes are affected by the implementation of web-based systems. The issue of organisational process change invariably impacts directly on the level of 'integration' and 'transformation' that can be expected, arising out of the strategic use of web-based systems and e-business strategies (Outlined in Tables 5.5 to 5.8 above), (Kettinger and Hackbarth, (2000) in Turban et al. (2002).

Hypothesis (3) postulated that IT-enabled process change is at the lower levels of 'localised exploitation' and 'internal integration' (Venkatraman, 1994). Parallel to the above findings of low levels of complexity of web-based systems, levels of process change were found to be minimal. Web-based systems are being used primarily in an isolated manner, to redesign

very focused, albeit, high value areas of operations of the various national tourist offices, namely promotion and marketing. Some evidence of the technical interconnectivity aspect of internal integration was noted. However, the organisational interdependencies that are also required for the achievement of full internal integration, resulting in 'seamless organisational processes', is certainly not present.

Higher levels of organisational change, business process redesign (BPR), business network redesign (BNR) and business scope redefinition (BSR), have not occurred to any great extent, in case study sites examined. Changes to internal processes and in the relationship with other partners in the NTO value chain can be characterised as simply an adjustment in the *mode* of interaction, as opposed to any substantive transformations in the *nature* of the relationships. In other words, electronic communication, primarily e-mail, has simply replaced some of the more physical, paper based means of interaction. Web sites are used to supplement existing marketing and promotional material, and in some cases is merely an online version of the hard copy brochure. There have been very limited internal adjustments or substantive changes to related organisational processes and objectives or to relationships with external partners and stakeholders.

This is consistent with the general trend in the use of the technology in tourism and other industries:

Most of the problems organisations face today when designing and implementing online strategies stem from trying to fit everything into existing structures and models...DMO's need to redefine their nature of business and the underlying models and processes...the co-evolution of innovative web-based technologies and communication strategies will lead to a quantum change in the way business is conducted, from business to consumer, from business to business and internally (Gretzel, Yuan and Fesenmaier, 2000:154).

At the core of organisational transformation is business process redesign (BPR). Venkatraman (1994:85) asserts that a fundamental question needs to be addressed as the process of IT-enabled process change unfolds. That is, "what is the reason for business process redesign? Is it to rectify *current deficiencies* or to *create capabilities* for tomorrow?" These are characterised as 'seeking efficiency' and 'enhancing capacities',

respectively. It is argued that if the dominant focus is on seeking efficiency, then the boundaries of the current strategy, that is business network and business scope, reflecting levels four and five in the Venkatraman framework, are *'fixed and given'*. The objective of BPR is then primarily to achieve operational improvements within these boundaries. Such an approach is valid under conditions where a radical redefinition of business scope, through the fundamental realignment of business processes and the reconfiguration of the business network is not expected (Venkatraman, 1994).

In the case of the tourism industry, where the redefinition of business scope and realignment of business processes within the business network or value chain by destination management organisations is not only expected, but well on the way, then the appropriate approach to IT-enabled business process redesign is unquestionably that of *'enhancing capacity'*. As noted earlier, structural changes in the tourism industry, resulting from the phenomenal increase in the Internet and e-commerce throughout the tourism value chain, on both the demand and supply sides, are encouraging the appearance of a "new type of destination management organisation" (UNCTAD, 2000; Gretzel, Yuan and Fesenmaier, 2000; Tourism Intelligence International, 2000; Buhalis and Licata, 2002; World Tourism Organisation, 2001(b); 1999).

It is clear, therefore that the approach needed for successful business process redesign is that of enhancing capacity. This entails the creation of strategic capabilities for future competition and increased collaboration, and starts with the *'articulation of business scope and the corresponding logic for business network redesign, in order to specify which business processes need to be redesigned and under what guiding conditions'* (Venkatraman, 1994: 86).

Hypothesis (3) was upheld in part, as IT-enabled process change is indeed at the lower levels of *'localised exploitation'* and *'internal integration'*, as opposed to the higher levels of BPR, BNR and BSR. The internal integration process changes, however, while evident in terms of technical interconnectivity, are still deficient with respect to the achievement of adequate levels of organisational interdependencies.

The 'organisational lag' between 'administrative innovation' and 'technical innovation' (Damanpour and Evan, 1984) and the distinction between 'technological innovation' and 'process innovation' (Clark and Stoddard, 1996), are most relevant here. A significant 'organisational lag' certainly exists between the adoption of technical or technological innovations and administrative or process innovations in the Eastern Caribbean NTO's. The reasons for this phenomenon, proffered by Damanpour and Evan (1984) seem most applicable in this scenario.

They argue that technical innovations tend to be implemented at a much faster pace than administrative or process innovations as they: are more observable; have higher 'trialability'; and are perceived to be relatively more advantageous and less *complex* than administrative and process innovations. The notion of complexity as an inhibitor of change and innovation is therefore validated in this study (Van de Ven and Rogers, 1988; Tornatzky and Fleisher, 1990; Premkumar and King, 1994).

While Clark and Stoddard (1996) make the distinction between process and technological innovation, Davenport (1993) views technological innovation as an enabler of process innovation. Clark and Stoddard (1996) contend, however, that although process and technological innovation are 'often interdependent', they represent distinctly different dimensions that can be adopted independently. This also is fully supported by the findings of this study, as outlined in the above discussion with respect to Hypothesis (3).

The findings with respect to Hypotheses (1), (2) and (3), are also noteworthy in light of the work of Holtham (2001). Three of the four 'intangible' elements²³ identified in the 'information fabric', which are often deficient or elusive in the IT-enabled change process, emerged in this work. Inadequate *knowledge*, in relation to the limited advancement of web-based systems (Hypothesis 1); lack of *direction or strategy* (Hypothesis 2); and minimal progress with respect to *process* change, were all significant findings in this study.

²³ Knowledge, Direction or Strategy, Process and Culture

The penultimate research question deals with the elements of the conception reality gap (Heeks, 1999) which most significantly affect the web-based systems implementation process:

In this era of rapid and fundamental structural change, DMO's face numerous barriers when trying to integrate online advertising strategies into their overall organisational concept. Acknowledging that barriers exists and identifying their scope and nature can already be very helpful in the attempt to successfully overcome these obstacles (Gretzel, Yuan and Fesenmaier, 2000:154).

Given the 'context-sensitive' nature of innovation, it has been argued that careful attention must be paid to the 'personal, organizational, technological and environmental context within which it takes place' (Tornatzky and Fleisher, 1990). Indeed, the level of compatibility and complexity, with regard to the innovation itself and the organisation, has consistently been found to play a pivotal role in the relative success, or otherwise of the information systems implementation process (Heeks, 1999; Barki and Hartwick, 1994; Premkumar and King, 1994; Tornatzky and Fleisher, 1990; Van de Ven and Rogers, 1988; Rogers and Shoemaker, 1971).

In the operationalisation and measurement of the conception-reality gap dimensions, the Heeks 'ITPOSMO'²⁴ model (1999), was extended to include several other dimensions: *Emphasis* given to the Internet and web-based systems; *Sense of Urgency*; *Integration* with traditional marketing and operational processes; *Communication* to staff members; *Staff Participation* and acceptance; *Continuous upgrade* of web-based systems.

Hypothesis (4) contends that the most significant gaps exist with respect to the 'process', 'integration' and 'management' dimensions of the conception-reality gap model. The most significant gap dimensions found in this study are: Money - 3.83; Processes - 3.70, Emphasis - 3.63; Integration - 3.57; and Sense of Urgency - 3.20.

²⁴ Information; Technology; Processes; Objectives, values and motivations; Staffing & skills, Management & structures; and Other resources.

Hypothesis (4) was upheld in part, with the exception of the 'management' gap dimension, as the other two conception-reality gaps proved to be significant, that is 'process' and 'integration'. It should be noted that the 'management' dimension was the lowest of all the dimensions examined, based on the quantitative measure, arising out of the questionnaire/survey method employed in the data collection and analysis process, discussed in Section 6.2.3 above. The triangulation procedure, using the qualitative data analysis and validation process²⁵ (discussed in Section 6.3.1 above), and the results of the quantitative survey data analysis (the questionnaire scores for the various dimensions) was tremendously beneficial to this work and in the analysis of this dimension, in particular.

This process led to a very useful deconstruction of this item into: 'management *awareness*' on the one hand and 'management *understanding*' on the other. The gap with respect to the 'awareness' aspect was quite narrow, as reflected in the score from the survey data analysis - 1.73 (See Section 6.2.7), but quite large in terms of 'understanding', as illustrated by the validated gap assessment (VGA) of 'wide', derived from the qualitative data analysis and verification process.

The validity of the extension of the conception-reality gap, 'ITPOSMO' model was confirmed by the fact that three of the dimensions included by the author were in the top five largest conception reality gaps: *Emphasis, Integration and Sense of Urgency*. Also of note is the unmistakable correlation between the following elements at the lower end of the conception-reality gap spectrum, discussed in Sections 6.3.4 and 6.3.5: '*clarity of objectives*' (Gap width: 2.40), '*communication*' (Gap width: 2.37), '*staff acceptance*' (Gap width: 2.20), '*user participation*' (Validated Gap Assessment: No Gap-Fit) and '*motivation*' (Validated Gap Assessment: Narrow).

The likely relationship between these variables is such that the high levels of communication and user participation, led to low gaps with respect to clarity of objectives, staff acceptance and motivation (Lui and Arnett, 2000; Mc Keen, Guimaraes, and

²⁵ Leading to the Validated Gap Assessment (VGA) Metric

Wetherbe, 1994; Davies, 1989; Franz and Robey, 1986; Ives and Olsen, 1984; Olsen and Ives, 1981; Barki and Hartwick, 1989; 1994).

It is of interest that the 'technology' dimension did not feature prominently as a significant conception-reality gap dimension. Though still an area of some concern, falling in the moderate range in the quantitative measure - 2.93, with a larger gap suggested by the qualitative validated gap assessment (VGA) measure (Technology: VGA - Wide), 'technology' did not fall into the top five widest gaps. The Eastern Caribbean NTO's, however, seem to be successful in accomplishing the technological 'leap-frogging' process that is required for developing states to compete effectively in the new global economy and the highly competitive international tourism industry, in particular.

What is paramount however is the recognition that the over-emphasis of the technology dimension, as manifested for example by the universal preoccupation presently with the concept of the '*digital* divide' and the many years of 'transfer of *technology*', initiatives are perhaps misplaced. Undoubtedly, real social, economic and cultural benefits certainly can *accrue from* the effective adoption and use of new information and communications technologies, when viewed *as a means to an end*.

It is ironic however, that the very likelihood of successful adoption, implementation and diffusion of these technologies can actually be hindered by the disproportionate attention on the 'tangible' strands, in particular, 'information systems' and 'technology' and the failure to appreciate and deal with the more intangible, and evidently, given the findings of this work, the more influential strands, such as direction or strategy, knowledge, process and culture (Holtham, 2001; Osborne, 2000; Hammer, 1995; Mechling, 1994).

The final area of concern - research question (5), relates to the key outcomes of the Web Sites of the Eastern Caribbean NTO's, with respect to levels of success: usage patterns, user satisfaction and visitor arrivals (DeLone and McLean, 1992; Franz and Robey, 1986; Ives and Olsen, 1984; Barki and Hartwick, 1994; Lucas, 1981). One of the aims of the

study was to establish whether a causal relationship exists between visits to the web sites of Eastern Caribbean NTO's and subsequent arrivals to the region.

While there are clear correlations between visitor sessions on the SLTB and GBT web sites and arrivals from the United States (Section 5.5.3), in the absence of specific data on the purposes for the visits to the web site and the timing of such visits, conclusions cannot be extended into the realm of causality. In other words, data needs to be gathered on whether persons who visit the NTO web sites are significantly influenced in arriving at a decision to visit the destination or whether upon deciding to visit the destination, persons then go to the NTO web site for further information and vacation planning.

Correlations between the extent of conception-reality gaps and web site success is weak, and at best tenuous with respect to the two sites where data was available on the level of activity on the web sites and visitor arrivals to the destination, that is Grenada and St. Lucia (Section 5.5.3) and certainly does not allow for the determination of causality between the two variables.

7.2 Contributions of the Study

The following statement is quite useful, with respect to the assessment of the overall contribution of this work to the Caribbean region:

There is a large hole in the tourism research agenda of the region and it cannot be filled by the CTO alone which has serious constraints of human and financial resources. Research is a time consuming and costly activity...at both the regional and national levels our information is, for the most part neither adequate nor timely (Jean Holder, Secretary General of the Caribbean Tourism Organisation, CTO Annual Report, 2002:34)

The following sections outline some of the primary implications and contributions of this study, from perspective of public sector policy and practice, with respect to information systems implementation and IT-enabled organisational change.

7.2.1 Implications for Public Sector Policy and Practice

The most critical element arising out of this work, in terms of the implications for information systems and information technology related policy formulation and implementation processes, is that close attention must be given to conception-reality gaps which may exist. Assumptions about existing conditions, explicit or inherent in the design of new systems, are often grossly mismatched with organisational realities. Appropriate measures should be taken to prevent, reduce or close gaps which often result in tremendous difficulties, delays and the partial or complete failure of the systems implementation process.

Conception-reality gaps, which adversely impact upon the likelihood of implementation success, can be dealt with in several ways. The use of policies and techniques to prevent the existence of large gaps, reduce gaps once they have been identified, can be focused on either; *changing the proposal* to make it closer to the reality or *changing the current reality* to make it closer to the proposal (Heeks, 1999). Far less desirable alternatives would be to *do nothing* and hope that the implementation will be successful notwithstanding or be

forced to *abandon the implementation* process, upon recognition that it is a total or partial failure, due to the inability to reconcile and overcome the 'great divide' between what is required or being imposed by the new system and the existing realities or organizational context variables.

Some specific gap closing measures were identified in this study, which seemed to have been effective for various gap dimensions under investigation. With respect to the largest gap dimension - money, for example, the use of the following techniques served to mitigate the effects of this gap: price negotiations, subsequent to contractual agreements; the reallocation of NTO budgetary provisions towards web-based activities; sensitization of key stakeholders and management; funding from International Donor Agencies; and the change of implementation approach to a more phased, gradual approach.

With respect to the skills gap, the primary approaches entailed the use of consultants, outsourcing systems development and maintenance functions and the provision of training for relevant staff. In one of the cases, with the smallest overall conception reality gap, several measures adopted served to prevent or close many of the gap dimensions: the reallocation of funds from other areas; IT training for all staff, from top management to the lowest levels of the organisation; excellent management of the outsourcing arrangement; strategic planning employed at various levels; and the cross-departmental coordination of web activities.

As noted in the earlier discussion with respect to Hypothesis (3), the focus of the process gap needs to be on 'enhancing capacity', as opposed to 'seeking efficiency' as the driver of business process redesign (Venkatraman, 1994). This will serve as the catalyst for more substantial and meaningful *organisational change*, with the 'lever' being business processes, and eventually, 'intellectual capital, relationships and cooperation' as opposed to being driven by 'technological infrastructure and software applications'²⁶, arising out of efforts to transfer *technology* to bridge the *digital divide*.

²⁶ (Kettinger and Hackbarth, 2000) in (Turban et al.2002).

The other three significant gaps (emphasis, integration and sense of urgency) can be addressed by the closing of one pivotal gap, identified in the deconstruction of the management dimension: 'management understanding'. It is argued here that if this 'intangible' strand of the information fabric, that is knowledge, is carefully weaved through innovative and creative means, into the management levels, with respect to the systems implementation and IT-enabled change processes, then the other significant gaps, namely: 'emphasis', 'integration' and 'sense of urgency' will, as a consequence of the clearer vision from the top, be shrunk and adjusted to smaller dimensions.

As noted by Gretzel, Yuan and Fesenmaier (2000:154):

Understanding usually comes from knowledge. Since no expertise is readily available, learning, collaboration and the active sharing of online experience become extremely important in the process of knowledge creation. As the Web matures, waiting is not an option.

A wealth of literature espouses the need for top management support as a key criterion for systems implementation success (Bajjal, 1999; Montealegre, 1999; Davidson, 1997; De Conti, 1998; Coulson-Thomas, 1998; McKeen, Guimaraes and Wetherbe, 1994). An even more fundamental reason for the contention that enhancing top management understanding and knowledge is imperative for the closing of other conception reality gaps in this context, is the very nature of public sector bureaucracies generally, and in developing countries in particular. Some of the significant characteristics identified in developing country public sector organisations are the high level of risk aversion; disinclination towards dramatic or rapid changes; rigid, authoritarian, bureaucratic structures; and a lack of incentives for innovation and changing the status quo (Heeks, 1999; Halamchi and Bovaird 1997; Kock and McQueen, 1996; Willcocks, 1994; Bhatnagar, 1990;1992; Willcocks and Mark, 1989).

On the issue of the role of top management, Gretzel, Yuan and Fesenmaier (2000:154), declares that:

Top-down management reinforces fear and distrust and internal competition and reduces collaboration and cooperation. It leads to compliance, but a high capacity to change required commitment...the real issue is the organisations' inability to deal with change. This inability stems from the belief that change can be managed using

traditional bureaucratic management approaches. Bureaucracy has been design to resist change (Waterman, 1990). It is necessary for establishing consistency and stability...but hierarchies make the free exchange of knowledge more difficult and thus, limit the organisational capacity to change (Gretzel, Yuan and Fesenmaier, 2000:153)

Substantial IT-enabled organisational process changes; the required level of resources and emphasis assigned to IT related initiatives; the extent to which these activities are integrated into the operations of the organisation; and the speed and resolve (sense of urgency) with which this is executed invariably depends on the direct *influence and actions* of top management. This influence and actions, it is argued, will only be forthcoming, with a greater level of management understanding and knowledge of the potential of the new information and communications technologies. It should also be emphasised that such knowledge does not need to be centred on the more technical aspects, but should deal with the management and organisational issues relating to the adoption and implementation of ICTs, as well as enhancing managerial capabilities for the use of relevant ICT applications for greater personal productivity and efficiency.

In addition to specific gap closing measures for the dimensions identified above, information systems implementation strategies should employ the prototyping approach, with the use of other measures where necessary. The importance of well managed outsourcing and consultancy arrangements is critical: ensuring that clear roles and responsibilities exists, that the requisite transfer of knowledge and capacity building at the local level occurs and provisions for long-term sustainability and viability of initiatives are put in place. Also critical is the software selection process, end user participation and involvement and the use of post implementation evaluation measures. Further, there is a distinct need for a greater degree of strategic planning at various levels, as well as the interlinking or integration of these strategies. Foremost of which is the development of well articulated national development policies and national ICT policies and strategies.

Finally, a greater level of resources and emphasis needs to be placed on research as part of NTO activities. Specifically, research into the use of NTO web sites, through online surveys, seeking to establish possible correlations and causal relationships, needs to be

undertaken. The level of NTO expenditure on research, as compared to other areas of activity (advertising, public relations, promotional activities and public information) for Caribbean tourism is significantly below average. It is perhaps instructive that the fastest growing region in terms of visitor arrivals (8.6% from 1980-2000), the East Asia Pacific region, is also the region which allocates the greatest percentage of its budget to research. The Caribbean region has one of the lowest levels of expenditure on research.

Table 7.1 NTO Budgets by Region and Area of Activity: 1980-1998

Region	Research Component of Overall NTO Budget
East Asia and the Pacific	5.4%
World Average	3.5%
Caribbean	0.9%

Source: World Tourism Organisation (1999b)

7.2.2 Theoretical Contribution

The primary contribution of this work is the operationalisation, application and validation of a wide range of concepts, frameworks and models. Many of these frameworks were also extended and enhanced, drawing on quantitative and qualitative data, and applied in an interlocking manner, showing the interrelationships and synergies between concepts and models developed over a period of about thirty years. Specifically, the key contributions in this regard are evident in three primary areas, discussed below. Moreover, this was undertaken in an area marked by a paucity of empirical research in the field on information technology and tourism, the small island developing states of the Eastern Caribbean.

1. Organisational Lag and the Five Levels of IT-Enabled Transformation

One of the notable contributions of this study is the integration of the concept of an 'organisational lag' - between 'administrative' or 'process' innovations and 'technical' or 'technological' innovations - with the seminal work on the 'levels of IT-enabled process change' ((Damanpour and Evan, 1984; Clark and Stoddard, 1996) (Venkatraman, 1994). The levels of organisational change were at 'localised exploitation' and 'internal integration', as opposed to the higher levels of business process redesign (BPR), business network redesign (BNR) and business scope redefinition (BSR), (Venkatramen, 1994). This corresponds with the concept of a '*lag*' between the introduction of 'technical' or 'technological innovation and the implementation of 'administrative' or 'process' innovation', in the process of information systems implementation initiatives.

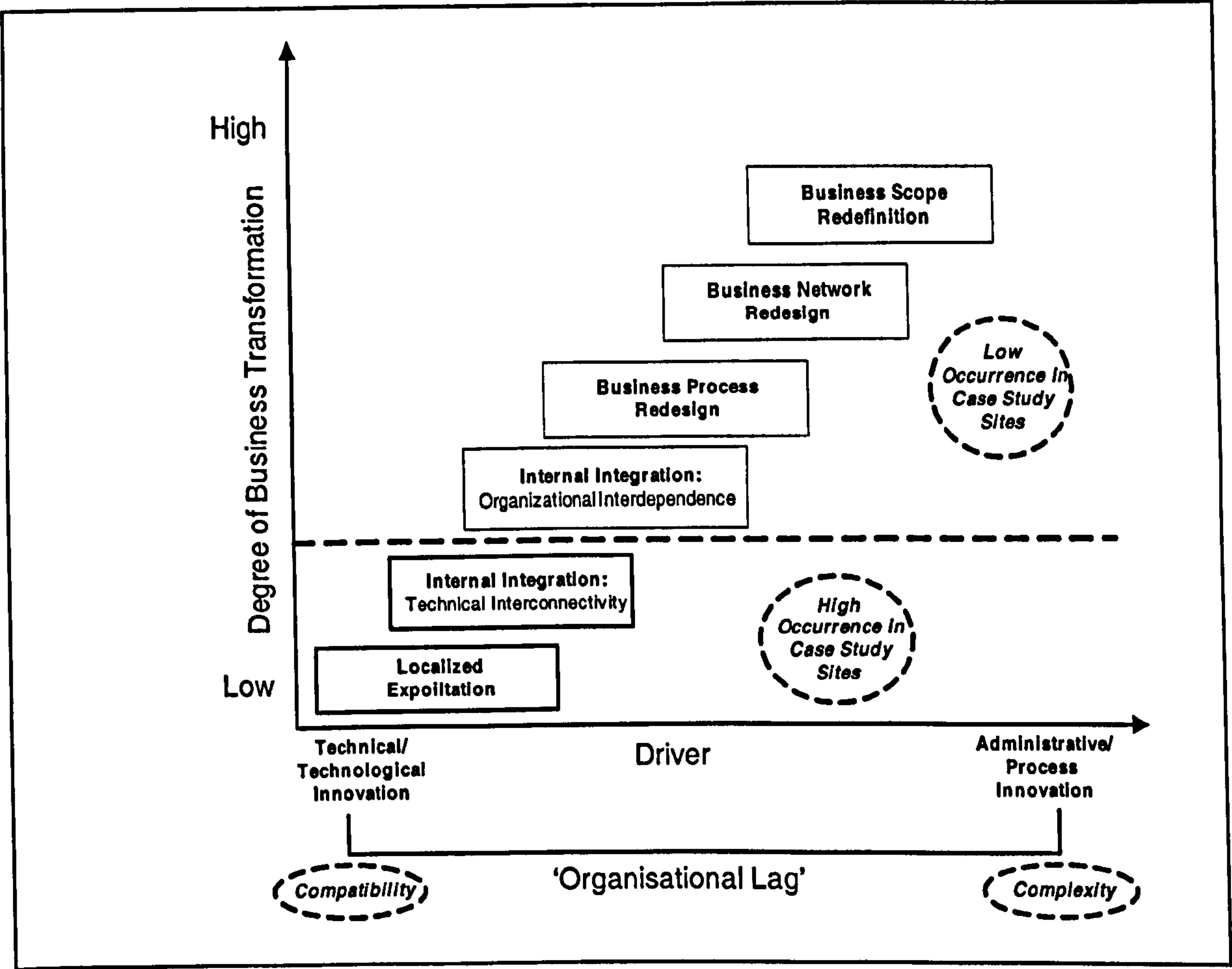
Administrative or process innovation - is clearly necessary for and may be analogous to the higher levels of change – BPR, BNR and BSR. These were found to be almost non-existent in all of the case studies. The 'organisational lag' was also evident at the level of 'internal integration'²⁷ IT-enabled change. While there was some measure of 'technical interconnectivity', there was very little evidence of the attainment of 'organisational interdependencies', which would also have to be effected largely through 'administrative' or 'process' innovations.

A model was developed to portray the above relationship between the theoretical frameworks discussed above and the data set analysed in this study. As illustrated in Figure 7.1 below, the primary driver for 'localised exploitation' and the 'technical interconnectivity' can be considered to be technical or technological innovations. On the other hand, administrative or process innovations would be the driver for the higher levels of organisational change. Another similar perspective on this would be that 'localised exploitation' and the 'technical interconnectivity' aspect of 'internal integration' are akin to 'technical' or 'technological' innovation. On the other hand, the 'organisational interdependencies' aspect of internal integration, business process redesign (BPR), business

²⁷ Internal Integration entails both technical interconnectivity and organisational interdependence

network redesign (BNR) and business scope redefinition (BSR) are similar to ‘administrative’ or ‘process’ innovations.

Figure 7.1 Levels of Change, Innovation and Organisational Lag



Adapted from: Venkatraman (1994); Damanpour and Evan (1984); Clark and Stoddard (1996); Roger and Shoemaker (1971)

The compatibility and complexity dimensions are also reflected in the above and it can be argued that ‘organisational lag’ is primarily a function of the level of complexity as reflected by the differentiation between technological versus process innovations.

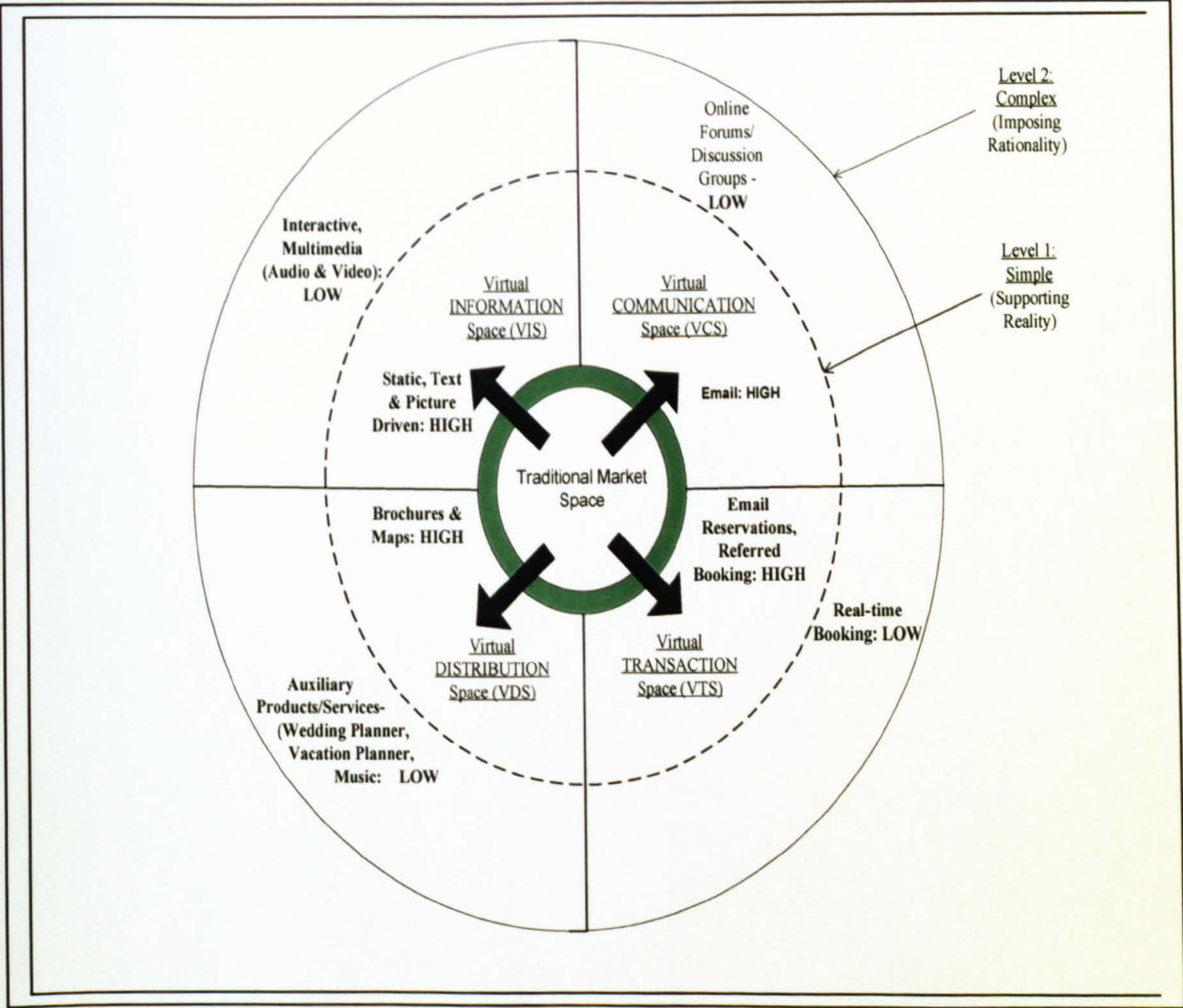
2. Virtual Spaces; Compatibility & Complexity; and Reality Supporting & Rationality Imposing Applications

The application of the 'ICDT' framework (Angehrn, 1997), the concept of reality supporting and rationality imposing applications (Heeks, 1999), the levels of web site complexity (Powell, 1998) and the concepts of compatibility and complexity with respect to the IS implementation process (Rogers, 1983, Rogers and Shoemaker, 1971, Premkumar and King, 1994; Heeks, 2003) is perhaps the most significant aspect of this study.

It was found that the computer applications used by the NTO's in the Eastern Caribbean and the regional DMO, the Caribbean Tourism Organisation (CTO) were predominantly reality-supporting, as opposed to rationality-imposing applications. A model illustrating the exploitation of reality supporting and rationality imposing applications, based on a combination of theoretical frameworks was developed based on the data collected with respect to the web-based features and applications used by the Eastern Caribbean NTOs and is presented in Figure 7.2 below.

Using Angehrn (1997) framework, the applications are categorised based on the virtual space that they represent or support - the virtual information, communication, distribution or transaction space. For example, the use of email and online forums/discussion groups would fall into the communication space, while the use of email reservations, referred booking or real-time booking falls in the transaction space.

Figure 7.2: ICDT, Complexity and Reality versus Rationality



The inner circle demarcated by the broken line (Level 1) indicates the systems and applications in the category of simple, ‘reality supporting’ applications. These also tend to be very *compatible* with the existing operations of the implementing organisations and are categorised as ‘simple’ based on the Powell (1998) classification (presented in Figure 5.1 and Table 5.2). The outer section represents the more complex, ‘rationality imposing’ applications. A key differentiator of Levels 1 and 2 is the degree of interactivity of the web-based systems and the extent of use of multimedia capabilities and formats.

The ‘High’ and ‘Low’ classification denotes the summary indication of the level or extent of usage of the various applications across the ICDT spectrum in the NTO’s in the Eastern Caribbean and the Caribbean Tourism Organisation (CTO). For the most part, therefore, it

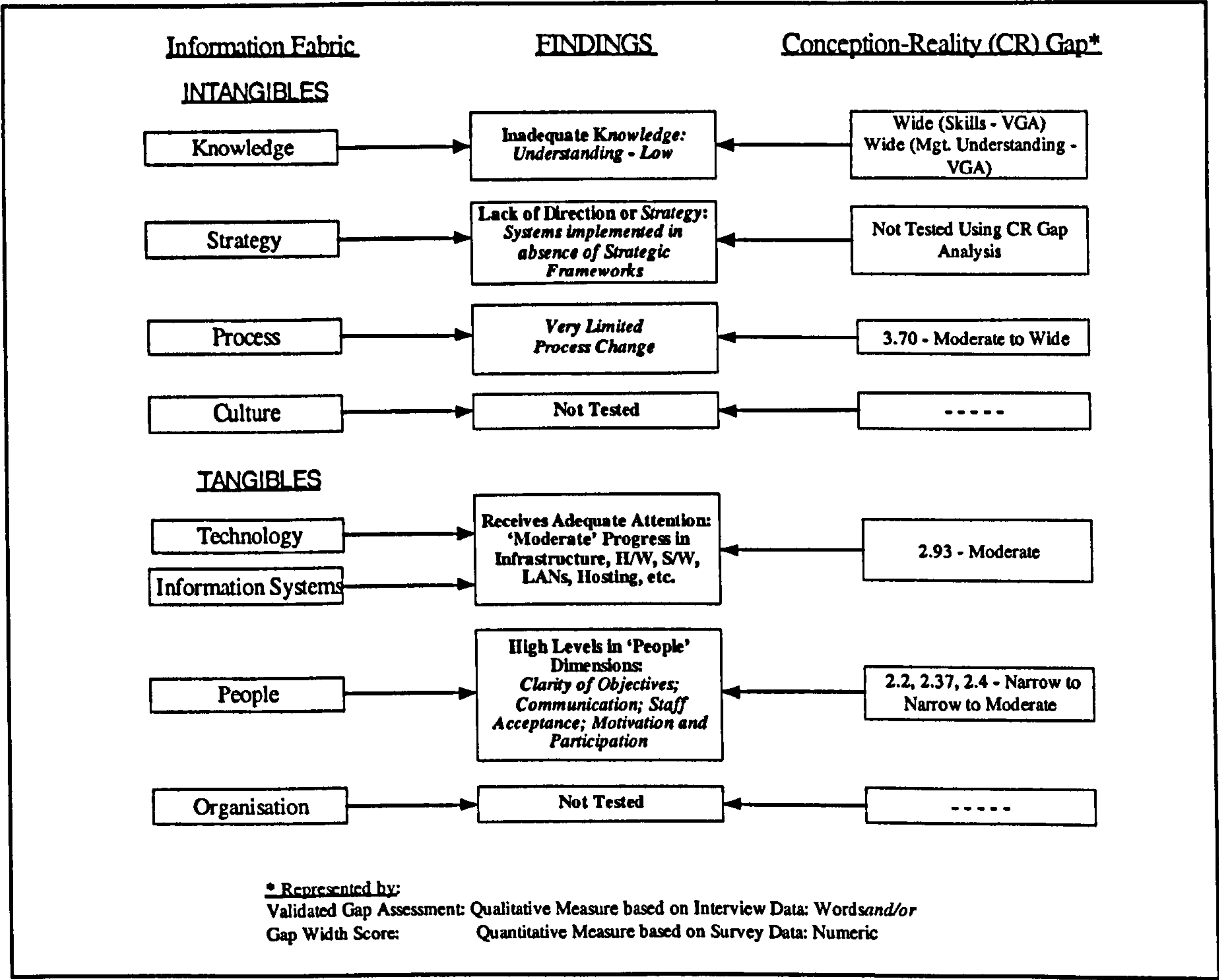
was found that the exploitation of the ICDT spaces was characterised by applications and systems that: support current 'realities'; are high in compatibility; simple and low in complexity.

3. Conception-Reality Gap and the Information Fabric

The third area in which a significant contribution emerged in this work was the distinct interlocking of the findings with respect to Hypotheses (1), (2) and (3), and the information fabric (Holtham, 2001). The findings were congruous with three of the four 'intangible' elements²⁸ identified in the 'information fabric', which are often *deficient or elusive* in the IT-enabled change process (Holtham, 2001). In particular, inadequate *knowledge* and lack of management *understanding* in relation to the limited advancement of web-based systems (Hypothesis 1); lack of *direction or strategy* in the implementation of web-based systems (Hypothesis 2); and the minimal progress with respect to *process* change were found in this study. This not only fit in with the concept of the 'intangibles' in the information fabric framework, but by extensions suggests that the two frameworks: Heeks (1999) conception-reality gap and Holtham (2001) information fabric, have clear synergies and support each other.

²⁸ Knowledge, Direction or Strategy, Process and Culture

Figure 7.3 Information Fabric and Conception Reality Gaps



Summary

Several themes prominent in the Information Systems literature are also addressed and confirmed in this work. For example, the importance of user involvement and participation in the systems implementation process; the critical role of strategy formulation at various levels; the importance of organisational context and contingency variables and factors which impact on the implementation of web-based information systems.

The social and economic advancement in developing countries can undoubtedly be enhanced by the use of the new information and communications technology (ICT) in public sector organisations in the tourism sector. The first step, however, invariably requires the *successful adoption, implementation and diffusion* of these technologies within the relevant organisations. In order to achieve this, due attention must be given to bridging key dimensions of the 'conception-reality' gap or overcoming organisational context variables and inhibiting factors, in the information systems implementation process, of which technology is but one aspect. A broad and comprehensive approach is necessary to enable fundamental changes, at the individual, organisational and national levels, which would undoubtedly lead to greater levels of social, economic and cultural progress, as well as, in the process, narrow the 'digital divide'.

The following chapter, Conclusions, discusses some key reflections on the research process, the primary limitations of the work, as well as recommendations for future research.

8. Conclusions

This research project addressed the adoption of the Internet and implementation of web-based systems by quasi-governmental organisations responsible for the management of tourism in the small island developing states (SIDS) in the Eastern Caribbean. The key aspects of this work entailed the examination of the factors which impact upon the systems implementation process and IT-enabled organisational change; levels of Internet adoption and maturity and the extent to which the implementation of web-based systems and e-business activities are being conducted within a strategic framework. The impacts and outcomes of the e-business activities in the tourism sector in these islands were also investigated.

Four in-depth case studies were conducted and data was collected from a wide range of sources, across five of the islands, focusing primarily on the National Tourist Offices - and the regional tourism body, the Caribbean Tourism Organisation. Several theoretical models were used to address the key aspects of this work. It was found that while Internet penetration is relatively high, most web sites and web-based systems still have a limited focus on basic information provision and communication, as opposed to distribution and transaction oriented activities. The web-based systems in the National Tourist Offices are, for the most part, not being implemented within a broader strategic framework.

The central aspect of this work dealt with the analysis of factors that impact upon the successful implementation of web-based systems. A conception-reality (CR) gap model was used in the assessment of the organisational context variables in the information systems implementation process. The most significant factors affecting the implementation of web-based systems, reflected by wide CR gaps, were: financing constraints, a low level of emphasis placed on these initiatives and the limited integration of IT with related business processes. A distinct 'organisational lag' was noted between technological innovation and administrative or process innovations. The impact of the wide gap in levels of management understanding was also significant. The technology gap was moderate, and

narrow gap levels were found for communication and user participation, which correlated with narrow gaps for clarity of objectives, staff acceptance and motivation.

The broader context of this work is the phenomenon often referred to as the 'Digital Divide'. Based on the findings, it is argued that the wide chasms between countries of the North and those of the South cannot be defined only, or indeed primarily, in 'technological terms'. The utilization of the new information and communications technology (ICT), as a means of social and economic advancement in developing countries clearly requires *firstly*, the successful adoption and implementation of the relevant technologies. The overriding focus, therefore, must be on bridging key dimensions of the 'conception-reality' gap, of which 'technology' is but one aspect. This would result in fundamental changes, at the individual, organisational and national levels, fostering greater levels of social and economic progress, as well as in the process, narrow the 'digital divide'.

8.1 Reflections on the Research Process

Upon reflection on what has, by far been *the* most challenging, and intellectually stimulating undertaking by the author, several key points have been gleaned from the research process. Some of the more salient aspects are discussed in the following Sections: 8.1.1 and 8.1.2.

8.1.1 Selection of Topic

First, there was the challenge of developing sufficiently relevant and interesting, but well-defined problem and research topic, which was possible to undertake in a methodologically rigorous manner, within the stipulated three to four years of full-time study. The selection of the topic, it was discovered, had a significant bearing on several key facets of the research exercise. In particular, in the early stages of determining appropriate literature for review - including various strands of broad bodies on work, the operationalisation of key constructs and variables, the selection of data collection strategies and the overall planning and execution of the field work.

For example, the research proposal submitted for entry into the doctoral programme and the first nine to ten months of this research activities focused on the topic: 'Business Process Reengineering and Information Technology Implementation in the United Kingdom Public Sector'. Several possible organisations in the UK public sector were identified for conducting fieldwork.

The research topic was adjusted however, in light of several considerations: the need for greater specificity (information technology was quite broad); the desire for greater relevance (from the author's perspective); the increasing attention to electronic commerce in the Information Systems and Management literature; and the decline (or demise) of business process reengineering (BPR), in the academic literature, as well as in the professional business literature and practice.

This adjustment in focus led to the topic 'Information Systems Implementation and IT-enabled Organisational Change in the Eastern Caribbean Tourism Sector²⁹'. This adjustment in topic at first appeared deceptively 'innocuous', until the various strands of literature and research design issues were more fully explored. It was then apparent that the research had *actually shifted* to a *substantially* different area. The implications for the review of new literature, the formulation of the research design and execution of the fieldwork were obviously quite significant.

8.1.2 Research Design, Data Collection and Analysis

The original research design was a multiple case study, with the intention of using all the ten (10) English speaking islands in the Eastern Caribbean as case studies. Upon commencement of preliminary field work, it soon became evident that many of the islands simply had a web site which was fully developed and maintained outside of the organisation, with virtually no involvement in the web-based activities by anyone within

²⁹ It is noteworthy that the shift to the new topic did not initially emerge from the extensive review of the academic literature, but from the author's browsing through a newspaper in the island of St. Lucia [Skeete (2000). *A New Vision for the Tourist Board*, The Voice Newspaper, September 9th, 2000, St. Lucia]

the organisation. The five NTO's and the regional tourism organisations (CTO) selected for this study were therefore those which had actually adopted the new technologies within their respective organisations and had a sense of 'ownership' and involvement in the process. Questionnaires were sent to everyone in the organisation who had some knowledge or involvement in the organisational use of the Internet or web-based systems. Semi-structured interviews were conducted with those persons who had a moderate to significant degree of knowledge and involvement in the information systems development process, as well as management personnel.

One of the most striking aspects of the data collection process was the dynamics of the interview process and the resulting data set, as compared to the administration of the survey instrument. The key informants in each of the case studies were interviewed on several occasions, in various locations and settings. For example, the Director of Research and Information of the Caribbean Tourism Organisation (CTO) was interviewed five times: *twice* at the CTO headquarters in Barbados *and* during his visits to the St. Lucia Tourist Board, respectively and *once* during the Annual Caribbean Tourism Conference in the Bahamas.

The rapport and trust established augured well for the free flow of information and the frankness that characterised the interview process throughout the study and across all of the organisations. It should be noted here that some of the primary strengths of qualitative data are the sensitivity to the influence of context; rich and holistic; allows participants to speak their own words; strong potential for revealing complexity and to enhance understanding of latent issues³⁰. Rigor and reliability or the internal consistency of the qualitative data analysis was enhanced through the use of the validated gap assessment (VGA) metric developed by the author. Additionally, the process was strengthened greatly by triangulation with the quantitative, survey data (primarily the conception reality gap scores computed on the scale of 1-5, from No Gap/Fit to Very Wide).

³⁰ For example the deconstruction of the 'management' dimension into 'awareness' and 'understanding', the latter being closely related to all of the other significant gap dimensions of : 'money', 'processes' 'emphasis', 'integration' and 'sense of urgency'.

Consequently, in instances where there was divergence between the survey data and the interview data, for example with respect to the conception reality gap analysis of the 'management' and 'staffing and skills' dimensions, more weight was placed on the qualitative measure, as reflected by the validated gap assessment (VGA).

In seeking explanations for divergent results, the author uncovered unexpected results or 'unseen contextual factors' (Jick, 1979). Thus 'triangulation was able, not only to examine the same phenomena from multiple perspectives, but also to enrich understanding by allowing new or deeper dimensions to emerge' (Jick, 1979).

The two main reasons for supplementing quantitative survey data with qualitative case study data were to: (1) develop contextual richness that is valuable in model building and (2) improve internal validity and interpretation of quantitative findings through triangulation (Gable, 1994). The process of compiling research findings and conclusions based, on multi-methods is useful, as noted earlier, whether there is convergence or not. Where there is convergence, confidence in the results grows tremendous. For example with respect to the conception reality gap dimensions: money, processes, objectives, communication and staff acceptance.

In the process of selecting a suitable mechanism for the qualitative data analysis, the use of Computer Assisted Qualitative Data Analysis Software was considered. The benefits of qualitative data analysis software include: speeding up the coding process; providing a more complex way of looking at the relationships in the data; providing a formal structure for writing and storing memos to develop the analysis; and, perhaps, aiding in the conceptual and theoretical thinking about the data (Seidel, 1991).

However, mindful of what Seidel (1991) himself refers to as 'the dark side of the technological advance', the author decided to use the traditional manual methods for the qualitative data analysis for this study. Some of the specific concerns with regard to the use of qualitative data analysis software are: it can distance the researcher from their data, resulting in losing sight of the data and developing a final analysis, without ever returning

to the full contextualised data, with the obvious irony that all of these aspects are precisely the essence of the qualitative data in the first place (Weaver and Atkinson, 1994; Yin, 1994; Stake, 1994; Miles, 1979; Miles and Huberman, 1994).

8.2 Study Limitations

One of the primary limitations of this study is the fact that the main phenomenon under investigation, context and contingency variables which influence the information systems implementation process, are constantly changing. While data was collected over a period of approximately eighteen months, a longitudinal study would perhaps be better suited to conclusively determine the key factors impacting on the implementation systems process, which, at the time of writing, is still in progress in all of the case study sites and the wider Caribbean region.

Due to time and cost implications, the number of case studies had to be limited to four (4) organisations, three national tourist organisations (NTO's) and the regional tourism organisation. Although data was collected from a total of five NTO's and the Caribbean Tourism Organisation (CTO), the external generalisability of this work is limited by the fact that not all of the Eastern Caribbean tourism organisations formed part of this study. As noted by Laws and Buhalis (2001), with respect to distribution channels in the tourism sector:

There is a basic need for more case studies to expand the documented knowledge of current practices as a time of fundamental change, but more importantly some way is needed to identify the key factors in each case leading to the particular distribution pattern adopted (Laws and Buhalis, 2001:374)

The generalisability of the findings and conclusions in this study may not be applicable to all destination management organisations, or indeed to all such organisations in developing countries. However, given the striking similarity between the islands of the Eastern Caribbean, as outlined in Chapter Four and Appendix 1, this work would be of relevance to

all islands in this region and indeed, of some utility to other small island developing states (SIDS) elsewhere.

As indicated earlier, data needed for the determination of the nature of the relationship between visits to the NTO web sites and visitor arrivals to the various destinations was not available. This and related issues are discussed briefly in the following section.

8.3 Recommendations for Future Research

Future research in this area should focus on the assessment of the levels of success with respect to Internet marketing. Some dependent variables or indicators of success can be: the extent to which the decision making process of visitors to the NTO web sites are influenced, the level of satisfaction with NTO online sources of information. This data should be analysed in light of visitor arrivals from the various sources markets in order to establish correlations or causality in the relationship between these variables. Efforts should focus on the use of online surveys, linked to the NTO web sites, and the adjustment of the relevant questions on Visitor Exit Surveys to allow for a clearer indication of the role of the NTO web site in the decision making and pre-trip planning process (Appendix 5).

Other areas for future research include exploration of the optimal mix between business to business versus business to consumer strategies and activities of NTO's. The issues of disintermediation, re-intermediation and the role of the NTO in the Caribbean and International tourism value chain, or the emerging value net, require further investigation. The options for electronic commerce - accommodation booking services, for example, are quite varied. These range from direct booking on the NTO web site, outsourcing to one or more commercial agencies, or referrals to booking agencies used by accommodation establishments or to intermediary booking engines - tour operators or travel agents. These alternatives require careful consideration, supported by current data on relevant trends, market and industry developments, user expectations and attitudes.

Areas of collaboration with the private sector and the balance between collaborative strategies with other destinations and global players, as compared to areas where more vigorous competitive measures should be adopted, needs to be examined empirically. Research on the role of the NTO in customer relationship management, at the destination level, is of critical importance, and should focus on visitors' use of information before and after their decision to travel to a specific destination, and the use of information and communication patterns before, during and after the actual visit to the destination.

Appendix 1: Regional Background

The Caribbean Community and Common Market

At the broader level of the Caribbean region, a treaty establishing the Caribbean Community and Common Market (CARICOM) was signed by the Prime Ministers of Barbados, Guyana, Jamaica, and Trinidad & Tobago, in Chaguaramas, Trinidad in, 1973. The six countries of the former Caribbean Free Trade Association (CARIFTA) - Belize, Dominica, Grenada, St. Lucia, St. Vincent and the Grenadines, and Montserrat - signed the Treaty of Chaguaramas on April 17, 1974.

There are presently fifteen (15) member countries of CARICOM. In addition to the nine official member states of the OECS sub-grouping, outlined in the previous section, Barbados, Belize, the Bahamas, Jamaica, Suriname, Trinidad and Tobago and Guyana make up the Caribbean Community and Common Market (CARICOM). In 1991, the Turks and Caicos Islands were granted Associate Membership and Haiti became a provisional member of CARICOM in 1997.

The Caribbean Community has three areas of activity: economic integration (that is, the Caribbean Common Market which replaced CARIFTA); cooperation in non-economic areas and the operation of certain common services; and coordination of foreign policies of the independent member states.

The Caribbean Common Market provides for the establishment of a Common External Tariff (and adoption of a common protective policy and the progressive coordination of external trade policies); the adoption of a Scheme for the Harmonization of Fiscal Incentives to Industry; double taxation arrangements among member countries; the coordination of economic policies and development planning; and a Special Regime for the Less Developed Countries of the Community.

The Caribbean Development Bank (CDB) was established in 1969 and commenced operations in January, 1970. Its primary purpose is to contribute to the economic growth and development of the member countries in the Caribbean and to promote economic cooperation and integration among them, also having special and urgent regard to the needs of the less developed members.

The institutional framework for coordination and cooperation among Caribbean states includes: the Caribbean Community and Common Market (CARICOM); the Caricom Regional Negotiating Machinery (RNM) and the Caribbean Development Bank (CDB). A brief overview of these regional institutions is provided below.

The Caribbean Hotel Association (CHA) was formed in 1962 and presently has a membership of thirty-three (33) national hotel associations and 800 individual hotels. It works to promote the interests of the accommodation sector and provides a forum for information and discussion, particularly at the annual Caribbean Hotel and Industry Conference (CHIC) and through monthly newsletters to members. It has a training unit, the

Caribbean Hospitality Training Institute, which provides training programmes and workshops for the industry.

Organisation of Eastern Caribbean States (OECS)

The Organisation of Eastern Caribbean States (OECS) came into being in 1981, when seven Eastern Caribbean countries signed a treaty agreeing to co-operate with each other and “promote unity and solidarity among members”. The primary catalyst for this initiative was the realization that as the islands gained independence from Britain – from the 1960’s onwards, there was need for a more formal arrangement among the individual, newly independent states. Prior to the formation of the OECS, there was the ‘West Indies Associated States Council of Ministers’ (WISA) and the Eastern Caribbean Common Market (ECCM), formed in 1966 and 1968 respectively, to assist with development efforts in this part of the Caribbean region.

As most of the countries gained their independent statehood, moving from ‘Associated States’, these two organisations were replaced by the Organisation of Eastern Caribbean States. The OECS is now, officially, a nine member grouping comprising: Anguilla*, Antigua & Barbuda, British Virgin Islands*, Dominica, Grenada, Montserrat, St. Kitts & Nevis, St. Lucia and St. Vincent & the Grenadines. (* Associate Members of the OECS) Notwithstanding the geographic proximity and close cooperation on many economic and social issues, the entry of Barbados is presently being discussed by the member states, but is yet to be finalized.

The OECS Secretariat, based in St. Lucia, consists of four main Divisions responsible for: External Relations, Functional Cooperation, Corporate Services and Economic Affairs. The mandate of OECS is quite broad and is fulfilled primarily through the operations of Units in various areas, as outlined below

Education

The OECS Education Reform Unit (OERU) is a professional service organization, facilitating and coordinating initiatives in education in OECS Member States. In 1990, the Ministries of Education in Eastern Caribbean States agreed on the need for a participatory approach to education reform based on sub-regional cooperation. The OECS Education Reform Unit facilitates reform activities in all member states. The primary goal is “to improve the quality of the human resource base for development in the Eastern Caribbean.” Education reform is expected to expand access, improve quality, and ensure equity in the education system.

Export Development

The Export Development Unit (EDU) was established by the OECS in November, 1997. The Unit assumed the responsibilities originally mandated to the Eastern Caribbean States Export Development Agency (ECSEDA), in the development of the export manufacturing sector and to the Agricultural Diversification Coordinating Unit (ADCU) in the promotion of non-traditional agricultural exports.

Legal

The Legal Unit provides legal support to the OECS members, the Secretariat and all subsidiary institutions of the organisation. The work of the Unit includes law reform and harmonization; coordination of Judicial and Legal Reform activities in the OECS; assistance to Member States in respect of the negotiating and adopting of Treaties, and provision of routine legal services to the Organisation and Member States, consistent with the status of the OECS as an International Organisation.

The work of the Legal Unit in the area of law reform and harmonization is based upon the requirements of Member States and has resulted in the enactment of harmonised model legislation in Member States covering a wide range of areas. The responsibility for Coordinating Judicial and Legal Reform activities in the OECS is a primary area of operations.

Other critical aspects of the Units operations are Intellectual Property and International Trade and Telecommunications issues. For example, the Unit oversees the development and implementation of legislative arrangements attendant to the liberalization of the Telecommunications Market in participating Member States and provides critical legal support for relevant negotiations.

Natural Resources

The Natural Resources Management Unit (NRMU) of the Organisation of Eastern Caribbean States was established in 1986 to coordinate environmental activities on behalf of the OECS Secretariat. The unit is now called the Environment and Sustainable Development Unit (ESDU). The ESDU assists in the management of the sub-region's natural resources by providing technical assistance and by developing tools and techniques for natural resource management.

Social Development

The OECS Social Development Unit (SDU) began in late 1998 with seed funding from the United Nations Development Programme (UNDP), to help strengthen linkages between economic and social strategy development. It provides the Secretariat with the capacity to assess and monitor human and social development related activities, including poverty reduction, for purposes of supporting the development planning processes in the sub-region.

Through this Unit, the Secretariat provides support to the OECS Member States in the following areas: 1. Social Development Policy and Planning; 2. Social Data Collection & Dissemination; 3. Poverty Reduction Strategies; 4. Capacity Building and Training; and 5. Assessment and Monitoring of Human and Social Development.

Other Sub-Regional Institutions

In carrying out its mission, the OECS also works along with a number of sub-regional and regional agencies and institutions:

Central Bank

The Eastern Caribbean Central Bank was established in October 1983 as the Monetary Authority for the OECS. The monetary arrangements are characterised by: the issuance of a single common currency, the flow of which is unrestricted among its members; a common pool of foreign exchange reserves; and the existence of a Central Monetary Authority which decides on the Union's monetary policy. The EC dollar has been pegged to the US\$ since 1976 at a rate of 2.7.

Supreme Court

The Eastern Caribbean Supreme Court was established in 1967 by the West Indies Associated States Council of Ministers. It is a superior court of record and has unlimited jurisdiction in the Member States, in accordance with the respective Supreme Court Acts. The Court sits in two divisions: the Court of Appeal and the High Court of Justice – Trial Division. The four member Court of Appeal is itinerant and sits in each member state to hear appeals. There are thirteen High Court Judges who are assigned as resident Judges in the various member states. The Trial Courts sit throughout the year. Criminal Assizes convene in each jurisdiction on dates specified by statute.

Civil Aviation

The Directorate of Civil Aviation, one of the oldest of the common services entities of the region, serves to advise the governments of the OECS on all matters relating to Civil Aviation including airfields and airport developments, and the adequacy of air services.

Acting on behalf of all OECS Member States, the Directorate, provides safety oversight through a system of inspecting, investigating, maintaining, monitoring, coordinating and licensing, and regulates all Civil Aviation activities in the OECS in accordance with the applicable ICAO annexes and Civil Aviation Legislation. The Directorate operates under the directive of the OECS Civil Aviation Regulatory Board comprising of the OECS Ministers responsible for Civil Aviation. This body sets Aviation policy and also reviews Aviation Law/regulations within the OECS.

The Director of Civil Aviation, who is the Chief Executive Officer, reports to the Aviation Board. In addition to the day-to-day operations of the Directorate, he advises the Board on such matters as Air Fares and rates, Air Services Agreements, Environmental Protection and Air Transport. The Manager, Flight Safety Division, Manager Air Navigation Services and the Manager, Finance & Administration assist him in his duties.

Telecommunications Authority

The OECS Secretariat embarked upon a Telecommunications Reform and Modernisation Project from the late 1990's. The liberalization of the Telecommunications sector was brought into sharper focus in view of the uncertain nature of markets for agricultural export commodities that have traditionally been the major contributors to most Caribbean economies. The opening up of the telecommunications sector to competition was seen as an essential step to facilitating the development of other economic sectors.

The move to liberalisation led to the need for a regulatory body to manage the transformation of the telecommunications sector. This resulted in the formation of the Eastern Caribbean Telecommunications Authority (ECTEL), in May, 2000, which serves as the regulatory authority.

A sub-regional telecommunications policy was developed, which recognised telecommunications as a catalyst for promoting efficiency and economic growth. New Telecommunications legislation has been enacted in all participating member states: Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines. In addition, the Governments of these states have negotiated with Cable & Wireless, the monopoly incumbent provider, to terminate its Licenses for the exclusive provision of services and to introduce competition in all services in April, 2002.

Participating member states have all established independent National Telecommunications Regulatory Commission (NTRC) in each of the member states. Matters such as the issuance of operator licenses, rate setting and tariffs, terms and pricing of interconnection, granting of landing rights and consumer complaints resolution, fall within the purview of the National Telecommunications Regulatory Commissions.

ECTEL has the responsibility of assessing and evaluating license applications and making recommendations to the NTRCs and the administration of the spectrum and number of allocations on a region-wide basis. It is also responsible for ensuring that all proposed national licenses meet regionally consistent terms and conditions and that rates and tariffs are harmonised in a manner the results in the OECS being treated as one telecommunications space.

What is perhaps most conspicuous, by its absence, is any institutional mechanism for coordinating and developing tourism policy and strategies at the level of the OECS, given the substantial and increasing economic contribution of this sector (discussed further in Section 4.2.2. below) and the recognition by the OECS Secretariat that: 'tourism is the only OECS industry that can claim to be internationally competitive, as it strives without the protection and preferential treatment that have characterised the development of agriculture and manufacturing in the sub-region...'

Appendix 2: Semi-Structured Interview Protocol

1. When was the web site developed?
2. What factors led to the decision to build the web site?
3. How long did the development process take?
4. What are the primary objectives of the site?
5. Was it developed in-house or out-sourced?
 - If developed in-house: Who was the employee responsible for the development of the site?
 - Could you describe/outline the development process?
 - If out-sourced: Who was the primary contact person within the firm?
 - Does the site meet the requirements specified?
6. Have significant changes been made to the site since the initial launch?
 - If yes: what were the primary changes and what factors led to the decision to change the site?
 - Follow-up - How have these been reflected in the site design, content and functionality?
7. Does the company have an overall electronic commerce (web-site) strategy?
 - If not, does the web site constitute part of the marketing strategy?
 - If yes, What are the major elements of the strategy?
 - How was it developed? (Where, who, process)
8. What has been the MOST influential factor in the development of the web-based initiatives of the organisation?
9. What are the primary difficulties encountered in the development of the web/EC efforts of the organisation?
10. How have these been addressed?
11. How would you categorise the site: B to C or B to B
12. What strategies/methods are used to promote the site?
13. Are any changes under consideration with respect to site promotion?
14. Were any measurement or evaluation processes/methods set-up with respect to the usage of the site?
 - If yes: What were these?
 - What have been the results thus far?
15. How critical is the site to the overall success of the organisation?

Not				Extremely
Important				Important
1	2	3	4	5
16. Which category best describes purpose of the web site: (why)
 - Information/ Communication/ Transaction/ Distribution
17. How is the IT/IS function organised/structured in the organisation?
18. What role do you envisage for the site in the next 6 –12 months?
19. To what extent has the site contributed to an increase in bookings/visitor arrivals/return visits?
20. Have any changes occurred in the processes or procedures of the organisation as a result of the implementation and use of the web site? Please outline these changes:

Appendix 3: Interviews Conducted

St. Lucia

Name	Position	Organisation
Mr. Louis Lewis	Information Systems Manager	St. Lucia Tourist Board
Ms. Tanya Warner	Assistant Marketing Manager	St. Lucia Tourist Board
Mr. Leslie Collymore	Assistant Information Officer	St. Lucia Tourist Board
Ms. Debbie Melchor	Information Officer	St Lucia Tourist Board
Ms. Patricia Charlery	Manager: UK and Ireland	St Lucia Tourist Board
Ms. Maria Fowell	Deputy Director - Marketing	St Lucia Tourist Board
Ms. Margaret Ann Charles	Tourism Officer	Ministry of Tourism and Civil Aviation, Government of St. Lucia
Ms. Phyllis Regis	Director of Product Development	Ministry of Tourism and Civil Aviation, Government of St. Lucia
Hon. Philip J. Pierre	Minister	Minister of Tourism, Commerce and Consumer Affairs, St. Lucia
Mr. Rodinald Soomer	Executive Vice President	SLHTA-Hotel & Tourism Association, St. Lucia
Ms. Karolin Guler Troubetzkoy	Director of Marketing and Operations	Anse Chastanet Hotel, St. Lucia
Ms. Naula Williams	Head, Information Services Unit	Organisation of Eastern Caribbean States, St. Lucia
Mr. Lester Martyr	Registrar of International Business Companies	Pinnacle- The World's Only Public Online Registry, St Lucia
Mr. Mark Ernest	Information/ Research Specialist	OECS Education Reform Unit (OERU), St Lucia

Grenada

Name	Position	Organisation
Mrs. Naline Ramdeen-Joseph	Head, Marketing	Grenada Board of Tourism
Ms. Samantha Hossle	Information Technology Officer	Grenada Board of Tourism
Mrs. Nikoyan Roberts	Senior Product Development Officer	Grenada Board of Tourism
Ms. Suzanne Mason	Marketing Development Officer- Small Hotels	Grenada Board of Tourism
Mr. William Joseph	Director of Tourism	Grenada Board of Tourism
Ms. Heather McIntyre	Research Officer	Grenada Board of Tourism
Ms. Rachael Ramsey	Assistant Marketing Officer	Grenada Board of Tourism
Mrs. Elizabeth Henry-Greenidge	Permanent Secretary (Ag.)	Ministry of Tourism, Civil Aviation, Culture Social Security, Gender and Family Affairs, Grenada
Mr. Cecil R.M. Bartholomew	Director, Information Technology	Central Information Management Agency, Government of Grenada

Caribbean Tourism Organisation & Barbados:

Name	Position	Organisation
Mr. Winfield Griffith	Statistical Specialist	Caribbean Tourism Organization, Barbados
Mr. Brian Gurnett	IT Consultant	Caribbean Tourism Organization
Mr. Rony Labonte	Information Management Specialist	Caribbean Tourism Organization, New York
Ms. Sharon Coward	Intranet Administrator	Caribbean Tourism Organization, Barbados
Ms. Gail Clarke	Marketing Research Specialist	Caribbean Tourism Organization, Barbados
Mr. Arley S. Sobers	Director of Information Management and Research	Caribbean Tourism Organization, Barbados

Mr. Stephane Abderemane	Marketing Information Specialist	Caribbean Tourism Organization, London
Mr. Jo Spalburg	Marketing Manager	Caribbean Tourism Organization, London
Mr. Stephen Aymes	Data Processing Officer	Caribbean Tourism Organization, Barbados
Ms. Angela Maynard	Research Officer	Caribbean Tourism Organization, Barbados
Mr. Carlos Wright	IT Consultant/Project Manager	Caribbean Tourism Organization, Barbados
Mr. Charles Walton	Systems Administrator	Barbados Tourism Authority
Mr. Oliver Jordan	President & CEO	Barbados Tourism Authority

Other

Name	Position	Organisation
Mr. George Vincent	STEP- Project Manager	OAS Inter-Sectoral Unit for Tourism, Washington, DC
Ms. Vera Ann Brereton	Director of Tourism	Ministry of Tourism & Culture, St. Vincent & the Grenadines
Mr. Kendrick E. Malone	Director of Tourism/ Film Commissioner	British Virgin Islands Tourist Board & Film Commission
Dr. Rodger Carter	Co-author of the WTO 'E-Business for Tourism'	TEAM
Ms. Julliette Popovic	Manager, Membership Marketing	Caribbean Hotel Association, Puerto Rico
Ms. Gaelle Reaune	IT Consultant	TEAM
Mr. Mark Atwell	E-Commerce Manager	Virgin Holidays
Ms. Anna Pollock	IT Consultant	
Mr. Bill James	IT Consultant	

Appendix 4: Questionnaire

1. Please indicate the reasons or objectives for the Web Site of your Organization:

	Very Important	Important	Uncertain	Not so Important	Not Important At All
1. To create/build an awareness of the destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. To provide information about the destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. To provide specific, tailored information for the various market segments (dive, wedding, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. To accurately & fully represent the image/brand of the destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. To enhance communication between the Office & prospective visitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. To enhance communication between the Office & other Stakeholders ¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. To develop post-trip relationships with visitors to the destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. To facilitate the collaboration & joint online initiatives with other Stakeholders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. To provide information on accommodation & rates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. To enable online Booking of accommodation, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. To enable the electronic distribution of ancillary products/services (e.g. e-postcards, online brochures, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. To generate revenue for the Tourist Office	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¹ Tour Operators/Travel Agents, Airlines, Hotels, etc.

2. What were the circumstances surrounding the development of the of the Web Site for the Tourist Office?

Please answer as many as apply	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
It was part of an overall Corporate Strategic Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was part of an overall Marketing Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was part of an IT/ Computer Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was a 'stand alone', Project initiated by management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was an informal initiative by someone in the Organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was in response to a Proposal by an external Individual/organisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Was the web site developed/built:

1. In-house ☐
2. Outsourced ☐
3. Jointly developed ☐ (with an external organization)

If Outsourced or Jointly developed, Please indicate whether the company was:

Local ☐ Regional ☐ International ☐

Please outline the nature of any outsourced/joint development:

4. Please state the primary considerations which influenced the decision as to how the Web Site was built (i.e. in-house, outsourced or joint development)

[Key: 1 - 5 in descending order of importance: 1=Most Important to 5=Not as Important]

1.	
2.	
3.	
4.	
5.	

5. The **Internet** related initiatives at your Office **have:**

Strongly Agree	Agree	Partially Agree/Disagree	Disagree	Strongly Disagree
----------------	-------	--------------------------	----------	-------------------

Top Management Support

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Staff Participation & Acceptance

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Satisfactory levels of Financial Resources

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Adequate Technical Skills and Expertise

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Adequate Communication to relevant Staff

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Sufficient ‘Sense of urgency’

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Clarity of Objectives

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Satisfactory Data/Content & Information Management

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Satisfactory Technological Infrastructure: H/W, S/W, LAN, Hosting, etc.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Adequate Supporting Organizational Processes

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Integrated with the other Related processes of the Tourist Office

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Been given Sufficient Emphasis

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Continuous upgrading & improvements to the website

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

6. How would you characterize the online/Internet initiatives of the Tourist Office in your island?

	Very Important	Important	Uncertain	Not so Important	Not At All Important
Use of the Internet to target prospective visitors directly, <u>whilst working</u> with traditional intermediaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of the Internet to target prospective visitors directly, <u>by-passing</u> traditional intermediaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building <u>on-line relationships</u> with other stakeholders in the tourism value chain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. What do you think are the barriers/constraints to the implementation and effective use of the Internet by the Tourist Office in your island?

[Key: 1 - 5 in descending order of importance: 1=Most Important to 5=Not as Important]

1.

2.

3.

4.

5.

8. What do you think are the enablers/facilitators to the implementation and effective use of the Internet by the Tourist Office in your island? (These could be any persons, events, circumstances, etc.)

[Key: 1 - 5 in descending order of importance: 1=Most Important to 5=Not as Important]

1.

2.

3.

4.

5.

9. Please outline any changes which have occurred in the organization as a result of the use of Information Technology (IT), and in particular the Internet:

Changes in the roles & responsibilities in the various functional areas: e.g. marketing, IT/computing, administration, etc.

Changes to the interconnection or configuration of computers systems and computer applications.

Changes to organizational processes or the organizational structure resulting from the implementation of IT and the use of the Internet.

Changes to the nature of the interaction with external organizations in the tourism supply chain, based on the use of IT and the Internet.

Changes to the corporate scope; i.e. the mix between the activities undertaken internally by the organization and what is obtained through partnerships & external arrangements, based on the use of IT and the Internet.

10. Does the Tourist Office have:

Computers linked together, over a Network.
 Intranet
 Extranet
 Databases connected directly to the Web Site
 Databases connected to the Intranet/Extranet
 A special section on the website for industry
 Partners, (Tour Operators/Travel Agents, etc.)

Yes	No	Uncertain
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Patterns of e-mail use in the organization:

Categories of e-mail usage				
Internally: Among Staff at Head Quarters (HQ)	Extensive Use <input type="checkbox"/>	Moderate Use <input type="checkbox"/>	Limited Use <input type="checkbox"/>	Hardly Used at all <input type="checkbox"/>
Between HQ & overseas Tourist Offices	Extensive Use <input type="checkbox"/>	Moderate Use <input type="checkbox"/>	Limited Use <input type="checkbox"/>	Hardly Used at all <input type="checkbox"/>
Between HQ & external partners (Tour Operators, Hotels, etc.)	Extensive Use <input type="checkbox"/>	Moderate Use <input type="checkbox"/>	Limited Use <input type="checkbox"/>	Hardly Used at all <input type="checkbox"/>
Between HQ and prospective visitors	Extensive Use <input type="checkbox"/>	Moderate Use <input type="checkbox"/>	Limited Use <input type="checkbox"/>	Hardly Used at all <input type="checkbox"/>

12. Are there plans for a significant redevelopment/redesign of the Web Site in the next:

Three Months ☐
 Three to Six Months ☐
 Six to Twelve Months ☐
 Twelve to Eighteen Months ☐
 No immediate plans ☐

13. Please state other comments/observations that you have about the use of the Internet and web-based technologies in the Tourist Office:

14. The Tourist Office that you represent is:

- ☐ A statutory body, wholly owned by the Government
- ☐ A government department, operating within the structure of the public service
- ☐ Fully funded by the Government
- ☐ Other (please explain)_____

15. Please state your job title: _____

16. Please indicate how long you have been employed with the Tourist Office:

17. Please state your email address: _____

THANK YOU FOR YOUR PARTICIPATION!
(Please check that all questions are completed as fully as possible)

Appendix 5: Visitor Exit Survey (Extract)

Current Question: How important were the following sources of information in making your decision to visit St. Lucia?

	Very Important	Important	Some-what Important	Not so Important	Not Important
	5	4	3	2	1
Radio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T.V.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
St.Lucia Tourist Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel Agent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newspaper/Magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Own Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friends/Relatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Suggested Amendment/Addition for Purposes of Future Research:

If the Internet was an ‘important’ source of information (i.e. you gave it a score of 3,4, or 5 above, please state the specific on-line sources used for information and pre-trip planning:

	Very Important	Important	Some-what Important	Not so Important	Not Important
	5	4	3	2	1
St.Lucia Tourist Board Web Site (www.stlucia.org)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caribbean Tourism Organisation Web Site (doitcaribbean.com)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel Agent Web Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accommodation Provider/Hotel Web Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Web Sites Please specify: 1)_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Web Sites Please specify 2)_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please state your level of satisfaction with the on-line information and travel planning that you did, using the following Internet Sites:

	Very Satisfied	Satisfied	Some-what Satisfied	Dissatisfied	Very Dissatisfied
	5	4	3	2	1
St.Lucia Tourist Board Web Site (www.stlucia.org)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caribbean Tourism Organisation Web Site (doitcaribbean.com)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel Agent Web Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accommodation Provider/Hotel Web Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Web Sites Please specify: 1)_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Web Sites Please specify: 2)_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Bibliography and References

- Abrahamson, E. (1991). 'Managerial Fads and Fashions: The Diffusion and Rejection of Innovations', *Academy of Management Review*, volume 16, number 2, pp. 586-612.
- Abrahamson, E. (1996). 'Management Fashion', *Academy of Management Review*, volume 21, number 1, pp. 254-285.
- Ackoff, R. (1967), 'Management Misinformation Systems', *Management Science*, volume 14, number 4, pp. 319-331.
- Adam, L. (1996), 'Electronic Commerce Technology and Development of Internet in Africa', *Information Technology for Development*, volume 7, pp. 133-144.
- Adler, P. and Adler, P. (1994), 'Observational Techniques' in *Handbook of Qualitative Research*, Denzin, N.K. and Lincoln, Y.S., London, Sage Publications, pp. 377-392.
- Afuah, A. (2001), *Internet Business Models and Strategies: Text and Cases*, Boston, Irwin/McGraw-Hill.
- Agarwal, A., De, G., Sinha, V. and Tanniru, K., (2000), 'Risks of Rapid Application Development', *Communications of the ACM*, volume 43, number 11.
- Alford, P. and Karcher, K. (2001), 'The Endeavour Extranet: Building and Managing a B2B e-Community in the British and Irish Leisure Travel Industry', in *Proceedings of the Enter 2001 Information Technology and Tourism Conference*.
- Amit, R. and Zott, C. (2001), 'Value Creation in e-business', *Strategic Management Journal*, volume 22.
- Andersen, K. (1999), 'Reengineering Public Sector Organisations using Information Technology' in Heeks, R. (1999), *Reinventing Government in the Information Age: International Practice in IT-enabled Public Sector Reform*, Routledge: London, pp.312-330.
- Andrew, F. (2000), 'Information and Communications Technology Research in the Travel and Tourism Domain: Perspectives and Direction' *Journal of Travel Research*, volume 39, number 2, pp. 136-145.
- Angehrn, A. (1997), 'Strategic Implications of the Internet', Working Paper, INSEAD, France.
- Applegate, F. (1999), 'Rigor and Relevance in MIS Research', *MIS Quarterly*, volume 23.
- Arnold, P. (1995), 'Reform's Changing Role', *Public Administration Review*, volume 55, number 5, pp.407-422.

Ascari, A, Rock, M. and Dutta, S. (1995), 'Reengineering and Organizational Change: Lessons form a Comparative Analysis of Company Experiences', *European Management Journal*, volume 32, number 1, pp.1-30.

Attewall, P. and Rule, J.B. (1991), 'Survey and Other Methodologies Applied to IT Impact Research: Experiences from a Comparative Study of Business Computing', in *The Information Systems Research Challenge: Survey Research Methods - Volume 3*, Harvard Business School Press, Boston, Massachusetts, pp. 299-315.

Au, N. (2001), 'Destination Marketing on the Internet: Impact of Hong Kong Association Web Site on International Travelers to Hong Kong', *Proceedings of the Enter 2001 Information Technology and Tourism Conference*.

Audit Commission Management Papers (1990), 'Preparing an Information Technology Strategy: Making it Happen, *Audit Commission for Local Authorities in England and Wales*, HMSO, United Kingdom.

Bacon, N. (1991), 'Information Systems Strategies in Government: Recent Survey Evidence', *Journal of Information Technology*, volume 6, pp. 94-107.

Bajjaly, S. (1999), 'Managing Emerging Information Systems in the Public Sector', *Public Productivity and Management Review*, volume 23, number 1, pp. 40-47.

Bar, F., Kane, N. and Simard, C. (2000), 'Digital Networks and Organisational Change: The Evolutionary Deployment of Corporate Information Infrastructure', in *Proceedings of International Sunbelt Social Network Conference*, Vancouver, BC.

Economic Planning Division (2001), *Economic and Social Report: 2001*, Ministry of Economic Development, Barbados.

Barbados Tourism Authority (1999), *Inside Tourism: A Handbook on the Barbados Tourist Industry*.

Barczak, G., Smith, C. and Wilemon, D. (1987), 'Managing Large Scale Organizational Change', *Organizational Dynamics*, volume 16, number 2, pp. 23-35.

Barki, H. and Hartwick, J. (1994), 'Measuring User Participation, User Involvement, and User Attitude', *MIS Quarterly*, volume 18, number 1, pp. 59-82.

Barki, H. and Hartwick, J. (1989), 'Rethinking the Concept of User Involvement', *MIS Quarterly*, volume 13, number 1, pp. 53-63.

Baywater, M. (1997), 'The European Travel Agency Industry: An Analysis of Corporate Strategies and the Prospects for Travel Distribution', *Travel and Tourism Intelligence Research Report*.

Bell, D. (1974), *The Coming of a Post-industrial Society*, Heinemann.

Bellamy, C. and Taylor, J. (1994), 'Exploiting Information Technology in Public Administration-Towards the Information Polity?' *Public Administration*, volume 72, Spring, pp. 1-12.

Benbasat, I. and Zmud, R. (1999), 'Rigor and Relevance in MIS Research', *MIS Quarterly* volume 23, number 1.

Benbasat, I. (1984), 'An Analysis of Research Methodologies' in *The Information Systems Research Challenge*, Harvard Business School Press, Boston, Massachusetts, pp. 47-85.

Benbasat, I., Goldstein, D. and Mead, M. (1987), 'The Case Research Strategy in Studies of Information Systems', *MIS Quarterly*, volume 11, number 3, pp. 369-386.

Benckendorff, P. and Black, N. (1999), 'Destination Marketing on the Internet: A Case Study of Australian Regional Tourism Authorities', *Working Paper*, James Cook University.

Benjamin, R. and Levinson, E. (1993), 'A Framework for IT-Enabled Change', *Sloan Management Review*, Summer.

Bhatnagar, S.C. (1990), 'Computers in Developing Countries', in S.C.Bhatnagar and Bjorn-Anderson (eds.) *Information Technology in Developing Countries*, Amsterdam, Elsevier Science.

Bhatnagar, S.C. (1992), *Information Technology Manpower: Key Issues for Developing Countries*, Tata McGraw-Hill, New Delhi, India.

Bhatnagar, S.C. and Odreda, M. (1992), *Social Implications of Computers in Developing Countries*, Tata McGraw-Hill, New Delhi, India.

Bloch, M. and Segev (1996), 'The Impact of Electronic Commerce on the Travel Industry: An Analysis Methodology and Case Study' Working Paper, University of California: Berkley.

Blyth, A. (1997), 'Business Process Reengineering: What is it?' *SIGGROUP Bulletin* 18, volume 1, pp. 4-6.

Boland, R. (1985), 'Phenomenology: A Preferred Approach to Research in Information Systems' in Mumford et al. (eds.), *Research Methods in Information Systems*, North Holland, Amsterdam.

Bonoma, T.V. (1985), 'Case Research in Marketing: Opportunities, Problems and a Process', *Journal of Marketing Research*, volume 22.

- Bridges, W. (1986), 'Managing Organizational Transitions', *Organizational Dynamics*, volume 15, number 1, pp. 24-33.
- Briguglio, L. (ed.) (1996), *Sustainable Tourism in Islands and Small States: Case Studies*, Cassells.
- Broadbent, M. and Weill (1999), 'The Implications of Information Technology Infrastructure for Business Process Redesign', *MIS Quarterly*, volume 23, number 2, pp. 159-182.
- Brown, A. (1994). 'Report on the First Conference and Exhibition on Business Process Reengineering', *Journal of Information Technology*, volume 9, pp. 297-302.
- Bryman, A. (1988), *Quantity and Quality in Social Research*, Unwin Hyman, London
- Buhalis, D. and Licata, M. (2002), 'The Future of eTourism Intermediaries', *Tourism Management*, volume 23, pp. 207-220.
- Buhalis, D. (1998). 'Strategic Use of Information Technology in the Tourism Industry. Tourism Management', *Journal of Information Technology and Tourism*, volume 9, number 5, pp. 12-23.
- Burgess, L and Cooper, J. (2000), 'Extending the Viability of MICA (Model of Internet Commerce Adoption) as a Metric for Explaining the Process of Business Adoption of Internet Commerce', *Working Paper*, School of Information Technology and Computer Science, University of Wollongong, Australia.
- Burke, G. and Peppard, J. (1995), 'Examining Business Process Reengineering: Current Perspectives and Research Directions', *Cranfield Management Series*.
- Burkhardt, M.E. and Brass, D.J. (1990), 'Changing Patterns or Patterns of Change: The Effects of a Change in Technology on Social network Structure and Power', *Administrative Science Quarterly*, volume 35, pp. 104 - 127.
- Burkhart, et al. (1998), 'The Internet in India: Better Times Ahead?' *Communications of the ACM*, volume 41, number 11, pp. 21-26.
- Burns, T. (1992), *Managing Change*, Pitman Publishing.
- Burns, T. and Stalker, G. M. (1961), 'The Management of Innovation', Tavistock Institute, London.
- Butler, R (1996), 'Modern Telecommunication Technology for Development', *Telecommunications Journal*, volume 53, number 7, pp. 404-407.

- Butler, R. (1994), 'Reinventing Government: A Symposium', *Public Administration*, volume 72, summer, pp. 263-270.
- Cafasso, R. (1993), 'Rethinking Reengineering', *Computerworld*, March 15, pp. 102-105.
- Cappel, J. and Myerscough, M. (1996), 'World Wide Web Uses for Electronic Commerce: Toward a Classification Scheme', *AIS Conference Proceedings*.
- Caribbean Business Publications (2003), *Business Barbados: 2003 Edition*.
- Caribbean Tourism Organisation (2002), *Caribbean Tourism Statistical Report 2000-2001*, CTO.
- Caribbean Tourism Organisation (2002), *Caribbean Tourism Organisation Annual Report: 2002*, CTO.
- Carnall, C.A. (1990), *Managing Change in Organisations*, Prentice Hall, New York.
- Carter, J. (2002), *Developing E-Commerce Systems*, Prentice Hall Inc.
- Caudle, S. (1994), 'Reengineering Strategies and Issues', *Public Productivity and Management Review*, volume 18, number 2, pp. 149-160.
- Caudle, S. (1995), 'Reengineering for Results: Keys to Success from Government Experience', *National Academy of Public Administration (NAPA)*, Washington D.C.
- Central Computer Technology Agency (CCTA) (1994), *BPR in the Public Sector: An overview of Business Process Reengineering*, Government Centre for Information Technology, London: HMSO.
- Chaffey, D. (2002), *E-Business and E-Commerce Management: Strategy, Implementation and Practice*, Pearson Education Limited.
- Chaffey, D., Bocij, P., Greasley, A. and Hickie, S. (2003), *Business Information Systems: Technology, Development and Management for E-Business*, 2nd Edition, Pearson Education Limited.
- Cheyunski, F. and Millard, J. (1998), 'Accelerated Business Transformation and the Role of Organization Architect', *The Applied Journal of Behavioural Science*, volume 34, number 3, pp. 268-285.
- Clark, T. and Stoddard, D. (1996), 'Interorganizational Business Process Redesign: Merging Technological and Process Innovation', *Journal of Management Information Systems*, volume 13, number 2, pp. 9-28.
- Committee of Public Accounts (1999), *Improving the Delivery of IT Projects*, House of

Commons, United Kingdom.

Connell, J. and Shafer, L. (1989), *Structured Rapid Prototyping*, Yourdon Press New Jersey.

Cooper, C. and Lewis, J. (2001), 'Transformation and Trends in the Tourism Industry: Implications for Distribution Channels', in *Tourism Distribution Channels: Practices, Issues and Transformations*, Buhalis, D. and Laws, E., (eds.) pp. 315-331.

Cooper, D. and Emory, C.W. (1995), *Business Research Methods*, 5th Edition, Irwin Inc.

Corbin, N. and Zincir-Heywood, A (2002), 'E-Commerce: A Case Study of Barbados Tourism and Hospitality Industry', Working Paper.

Corkburn, C. and Wilson, T.D. (1996), 'Business Use of the Word Wide Web', *International Journal of Information Management*, volume 16, number 2, pp. 83-102.

Correa, C. M. (1992), 'The Assimilation of Computer and Microelectronics Technology in Developing Countries: the Case of Latin America', *International Journal of Technology Management*, volume 7, number 6, pp. 485-492.

Coulson-Thomas, C. (1998), 'Managing Innovation in Public Services: European and International Experience', *Total Quality Management*, volume 9, number 2, pp. 213-222.

Coulson-Thomas, C.J. (1997), 'The Future of the Organization: Achieving Excellence through Business Transformation', *Management Science*, volume 41, number 12, pp.16-18.

Daft, R.L. (1982), *Bureaucratic versus Non-bureaucratic Structure and the Process of Innovation and Change*.

Damanpour, F. and Evan, W. (1984), 'Organisational Innovation and Performance: The Problem of 'Organisational Lag'', *Administrative Science Quarterly*, volume 29, number 3, pp.392-409.

Daniel et al. (1999), 'Effective Strategies for Electronic Commerce: Analysis Tools and Frameworks for Electronic Commerce Strategy Development', Working Paper, Cranfield School of Management.

Davenport, T. (1995), 'The Fad that Forgot People', *Fast Company Online*, volume 3, pp. 71-78.

Davenport, T.H. (1993), *Process Innovation: Reengineering Work through Information Technology*, Ernst & Young, USA.

Davenport, T.H. and Short, J.E. (1990), 'The New Industrial Engineering: IT and Business Process Redesign', *Sloan Management Review*, Summer.

- Davidson, G. (1997), 'Managing by Processes in Private and Public Organisations: Scientific Management in the Information Revolution', *Journal of Post Keynesian Economics*, volume 20, number 1, pp. 25-45.
- Davidson, W.H. (1999), 'Beyond Reengineering: The Three Phases of Business Transformation' *IBM Systems Journal*, volume 38, number 2/3, pp. 485-499.
- Davies (1989), 'Perceived Usefulness, Ease of Use and User Acceptance of Information Technology', *MIS Quarterly*, volume 13, number 3.
- DeConti, H. (1998), 'Planning and Creating a Government Web Site: Learning from the Experience of the US States'. *IS for Public Sector Management Working Paper Series*, No. 2., Institute for Development, Policy and Measurement, University of Manchester.
- DeLone, W.H. and McLean, E.R. (1992), 'Information Systems Success: The Quest for the Dependant Variable', *Information Systems Research*, volume 3, number 1.
- Denhardt, R. B. (1991), *Public Administration: An Action Orientation*,. Pacific Grove, Cal: Brooks/ Cole.
- Deniozos, D. (1994), 'Steps for the Introduction of Technology Management in Developing Economies: The Role of Government', *Technovation*, volume 14, number 3, pp.197-203.
- Dewan, S. and Kraemer, K.L. (1998), 'International Dimensions of the Productivity Paradox', *Communications of the ACM*, volume 41, number 8, pp. 56-62.
- Duck, J. D. (1993), 'Managing Change: The Art of Balancing', *Harvard Business Review*, volume 71, number 6, pp. 109-118.
- Dunphy, D. and Stace, D. (1993), 'The Strategic Management of Corporate Change', *Human Relations*, volume 46, number 8, pp. 905-916.
- Dyerson, R. and Roper, M. (1991), 'Managing Change in Britain: Information Technology Implementation in the Department of Social Services and Inland Revenue', *Informization and the Public Sector*, volume 1, number 4, pp. 303-327.
- Earl, M. and Khan, B. (1994), 'How New is Business Process Reengineering?' *European Management Journal*, volume 12, number 1, pp. 20-30.
- Edwards, C. and Peppard, J.W. (1994), 'Business Process Redesign: Hype, Hope or Hypocrisy?', *Journal of Information Technology*, volume 9, pp. 251-266.
- Ein-Dor, Goodman and Wolcott, (2000), 'International Perspectives: From Via Maris to Electronic Highway: The Internet in Canaan', *Communications of the ACM*, volume 43, number 7, pp. 19-23.

Eisenhardt, K. M. (1989), 'Building Theories from Case Study Research', *Academy of Management Review*, volume 14, number 4, pp. 532-550.

Elliot, J. (1997), *Tourism: Politics and Public Sector Management*. Routledge, London.

Ethiraj, Guler, and Singh (2000), 'The Impact of Internet and Electronic Technologies on Firms and It's Implications for Competitive Advantage', Working Paper, Wharton School, University of Pennsylvania.

Evans Pritchard (1970), *The Sociology of Comte: An Appreciation*. Manchester University Press, Manchester.

Evans, B.(1999), 'The Next Big Thing is Here', *Informationweek*, volume 742, number 5, pp. 10-11.

Faulkner, B. (1997), 'A Model for the Evaluation of National Tourism Destination Marketing Programs', *Journal of Travel Research*, volume 35, pp 23-32.

Feldman, S. P. (1988), 'How Organizational Culture can Affect Innovation, *Organizational Dynamics*, volume 17, number 1, pp. 57-68.

Fieldler, K.D. et al. (1994), 'Information Technology-enabled Change: The Risks and Rewards of Business Process Redesign and Automation', *Journal of Information Technology*, volume 9, pp. 267-275.

Flood (2001), 'Online Travel Business Fly High', *Computing*, volume 5, pp. 49

Flynn, N. (1997), *Public Sector Management*, 3rd Ed. Prentice Hall/Harvester Wheatsheaf.

Fontana, A. and Frey, J.H. (1994), 'Interviewing: The Art of Science' in Denzin, N.K. and Lincoln, Y.S., *Handbook of Qualitative Research*, London: Sage Publications, pp. 361-376.

Franz, C. and Robey, D. (1986), 'Organizational Context, User Involvement, and the Usefulness of Information Systems', *Decision Sciences*, volume 17, number 3, pp. 329-356.

Frew, A. (2000a), 'Information and Communications Technology Research in the Travel and Tourism Domain: Perspective and Direction', *Journal of Travel Research*, volume 39, number 2, pp. 139.

Frew, A. (2000b), 'Information Technology and Tourism: A Research Agenda', *Information Technology and Tourism*, volume 3, pp. 99-110.

Frew, A. and O'Conner, P. (1999), 'A Comparative Examination of the Implementation of Destination Marketing System Strategies: Scotland and Ireland' in *Proceedings of the Enter 1999 Information Technology and Tourism Conference*.

- Frew, A., McCarthy, P. and Horan, P. (2002), 'Analysis of the Volume, Value and Conversion Performance of a National Destination Marketing Website', *Proceedings of the Enter 2002 Information Technology and Tourism Conference*.
- Gable, G.G. (1994), 'Integrating Case Study and Survey Research Methods: An Example in Information Systems', *European Journal of Information Systems*, volume 3, number 2, pp. 112-126.
- Galliers, R. D. and J. A. Swan (1999), 'Information Systems and Strategic Change: A Critical Review of Business Process Re-Engineering' in *Rethinking Management Information Systems*, Currie, W. L. and R. D. Galliers (eds) Oxford University Press, Oxford, pp. 361-387.
- Garcia, L. (2000), *Telecommunications in an Information Age: Opportunities for Developing Countries in the Global Information Economy*, Georgetown University, Washington, DC.
- Garrity, E.J. and Sanders, G.L. (1998), *Information Systems Success Measurement*, Idea Group Publishing: London.
- Gartner, W. (1996), *Tourism Development: Principles, Processes and Policies*, John Wiley & Sons, Inc.
- Gersick, C. J. (1991), 'Revolutionary Change Theories: A Multi-level Exploration of the Punctuated Equilibrium Paradigm', *Academy of Management Review*, volume 16, number 1, pp. 10-36.
- Gibson, C. F. and Jackson, B.B. (1987), *The Information Imperative*, Lexington: Lexington Books.
- Goldstein, A. and O'Conner, D. (2000), *E-Commerce for Development: Prospects and Policy Issues*, OECD Development Centre, Paris.
- Goldstein, J. (1988), 'A Far-from-Equilibrium Systems Approach to Resistance to Change', *Organizational Dynamics*, volume 17, number 2, pp. 16-26.
- Goodall, B. and Ashworth, G. (1988), *Marketing in the Tourism Industry: The Promotion of Destination Regions*, London, GroomHelm.
- Goodstein, L. D. and Burke W.W. (1991), 'Creating Successful Organization Change', *Organizational Dynamics*, volume 19, number 4, pp. 5-17.
- GOPA, (2002), *ICT: Final Policy Report*, OECS Secretariat.
- Grant, S. (1999). *E-Commerce for Small Businesses*, INSTEAD Working Paper.

Grenada Industrial Development Corporation (GIDC) (2002), *The Businessman's Guide to Grenada: A Comprehensive Guide to Business and Investments in Grenada*.

Gretzel, Yuan and Fesenmaier (2000), 'Preparing for the New Economy: Advertising Strategies and Change in Destination Management Organisations', *Journal of Travel Research*, volume 39, Sage Publications.

Grint, K. (1994), 'Reengineering History: Social Resonances and Business Process Reengineering', *Organization*, volume 1, number 1, pp. 179-201.

Hackett, P. (1990), 'Investment in Technology: The Service Sector Sinkhole?', *Sloan Management Review*, Winter, pp. 104-114.

Haines, D.W. (1999), 'Letting the System do the Work: The Promise and Perils of Computerization', *The Applied Journal of Behavioural Science*, volume 35, number 3, pp. 306-324.

Hakim, C (1992), *Research Design: Strategies and Choices in the Design of Social Research*, London, Routledge.

Hakim, C. (2000), *Research Design: Successful Designs for Social and Economic Research*, 2nd Edition, London, Routledge.

Halachmi, A. (1996), 'Business Process Reengineering in the Public Sector: Trying to get another frog fly?', *National Productivity Review*, Summer, pp. 9-18.

Halachmi, A. and Bovaird (1997), 'Process Reengineering in the Public Sector: Learning Some Private Sector Lessons?' *Technovation*, volume 17, number 5, pp.227-235.

Hall, et al. (1993), 'How to make Reengineering Really Work', *Harvard Business Review* November/December, pp. 119-131.

Hall, M. and Jenkins, J. (1995), *Tourism and Public Policy*, Routledge, London.

Hamm, S. and Stepanek, M. (1999), 'From Reengineering to E-engineering', *Business Week*, March 22, Issue 36, pp. 14-17.

Hammer, M. (1995), 'Public Sector Reengineering', *Government Technology*, September.

Hammer, M. and Champy, J. (1993), *Reengineering the Corporation: A Manifesto for Business Revolution*, London: Nicholas Brealey Publishing.

Hammer, M. and Stanton, S. (1995), *The Reengineering Revolution: Handbook*, London: HarperCollins.

Harrington, H.J. (1991), *Business Process Improvement*, McGraw-Hill, New York.

Heeks, R. (1999) *Reinventing Government in the Information Age: International Practice in IT-enabled Public Sector Reform*, Routledge: London.

Heeks, R. (2003a), 'eGovernment for Development: Causes of eGovernment Success and Failure: Design-Reality Gap Model'. www.e-devexchange.org

Heeks, R. (2003b), 'eGovernment for Development: Design-Reality Gap Analysis: Identification of Electronic Government Failure Causes Techniques', www.e-devexchange.org

Heeks, R. (2003c), 'eGovernment for Development: Design-Reality Gap Assessment: Electronic Government Risk Assessment', www.e-devexchange.org.

Heeks, R. and Bhatnagar (1999), 'Understanding Success and Failure in Information Age Reform', in *Reinventing Government in the Information Age: International Practice in IT-enabled Public Sector Reform*, Routledge: London, pp. 49-74

Henfridsson, O. (1995), 'The Implementation of Information Technology in Developing Countries', *Proceedings of Information Systems Research in Scandinavia (IRIS) Conference*, Gjern, Denmark.

Henwood and Pidgeon (1992), *Qualitative Research and Psychological Theorising*, Sage Publications.

Ho, J. (1997), 'Evaluating the World Wide Web: A Global Study of Commercial Sites', *Journal of Computer Mediated Communication*, volume 3, number 1, pp.1-23.

Holtham, C. (2000), 'E-Government: A Half-hearted Revolution', *Public Finance*, June, pp. 48-49.

Holtham, C. (2001), 'The Information Fabric: A Framework for the Analysis of Information Systems' Working Paper, City University Business School, London.

Hood, C. (1991), 'A Public Management for all Seasons?', *Public Administration*, volume 69, Spring, pp.3-19.

House of Commons Committee of Public Accounts (1999), *Improving the Delivery of Government IT Projects*, United Kingdom.

Huberman, A. and Miles, M.B. (1994), 'Data Management and Analysis Methods' in *Handbook of Qualitative Research*, Denzin, N.K. and Lincoln, Y.S., London: Sage Publications, pp. 236-247.

Hudson, et al (2001), 'Travel Retailing: 'Switch Selling' in the UK' in *Tourism Distribution Channels: Practices, Issues and Transformations*, Buhalis, D. and Laws, E., pp. 172-184.

- Hudson, H.E. (1984), 'Telecommunications and the Developing World', *IEEE Communications Magazine*, volume 25, number 10, pp. 28-33.
- Inkpen, G (1998), *Information Technology for Travel and Tourism*, Addison Wesley Longman Ltd., Essex, England.
- Ives, B. and Olsen, M.H. (1984), 'User Involvement and MIS Success: A Review of Research', *Management Science*, volume 30, number 5, pp. 586-603.
- Ives, Blake, Olson and Baroudi, (1983), 'The Measurement of User Information Satisfaction', *Communications of the ACM*, volume 26.
- Jackson, N. (1996), 'Business Process Reengineering '96', *Management Services*, volume 41, number 2, pp. 34-36.
- James, G. (1997), 'IT Fiascoes...and how to Avoid Them', *Datamation*, volume 43, number 11, pp. 84-88.
- Jefferies, D. (2001), *Governments and Tourism* Butterworth-Heineman.
- Jick, T. (1979), 'Mixing Qualitative and Quantitative Methods: Triangulation in Action', *Administrative Science Quarterly*, volume 24, pp. 602-611.
- Johnson, G. and Scholes, K. (1999), *Exploring Corporate Strategy*, Prentice Hall Europe, Hemel Hempstead.
- Jordan, G. (1994), 'Reinventing Government: But will it Work?' *Public Administration*, volume 72, Summer, pp. 271-279.
- Jung, H. and Baker, M. (1998), 'Assessing the Market Effectiveness of the World Wide Web in National Tourism Offices' in *Proceedings of the Enter 1998 Information Technology and Tourism Conference*.
- Jung, T. and Butler, R. (2000), 'Perceptions of Marketing Managers of the Effectiveness of the Internet in Tourism and Hospitality', *Information Technology and Tourism*, volume 3, pp. 167-176.
- Kahn, R. (1994), 'The Role of Government in the Evolution of the Internet', *Communications of the ACM*, volume 37, number 8, pp. 15-19.
- Kalakota, R. and Robinson, M. (1999), *E-business: A Roadmap for Success*, Addison-Wesley.
- Kalakota, R. and Whinston, A. (1997), *Electronic Commerce: A Manager's Guide*. Addison-Wesley.

- Kanter, R. (1983), *The Change Masters: Corporate Entrepreneurs at Work*. London: Routledge.
- Kaplan, B. and Duchon, D. (1988), 'Combining Qualitative and Quantitative Methods in IS Research: A Case Study', *MIS Quarterly*, volume 12, number 4, pp. 571 – 586.
- Kaplan, B. and Maxwell, J.A. (1994), 'Qualitative Research Methods for Evaluating Computer Information Systems', in *Evaluating Health Care Information Systems: Methods and Applications*, J.G. Anderson, C.E. Aydin and S.J. Jay (eds.), Sage, Thousands Oaks, CA.
- Karcher, K. (1998), 'Tour Operators in the Electronic Marketplace', in *Proceedings of the ENTER 1998 Conference on Information and Communication Technologies in Tourism*.
- Katzy, B.R. and Obozinski, V. (1998), 'Value System Redesign', *SIGGROUP Bulletin* 19, volume 3, pp. 48-50.
- Keen, P.G. (1996), 'Putting the Payoff before Process', *Computerworld*, November.
- Keen, P.G.W. (1981), 'Information Systems and Organisational Change', *Communications of the ACM*, volume 24, number 1, pp. 24-33.
- Kellough, J.E. (1998), 'The Reinventing Government Movement: A Review and Critique', *Public Administration Quarterly*, volume 22, number 1, pp.6-20.
- Kenney, G. (1995), 'The Missing Link: Information', *Information Technology for Development*, volume 6, pp. 33-38.
- Kettinger, W.J. and Hackbarth, G. (2000), 'Building an E-Business Strategy', *Information Resource Management*, Summer.
- Kidd, S. (1997), 'Principles for Evaluating Information Technology Initiatives', *The Government Accountants Journal*, Summer, pp.13-15.
- Kiely, T. J. (1995), 'Managing Change', *Harvard Business Review*, volume 73, number 2, 15-29.
- Kimberly, J. and Evanisko, M. (1981), 'Organisational Innovation: The Influence of Individual, Organisational and Contextual Factors on Hospital Adoption of Technology and Administrative Innovations', *Academy of Management Journal*, volume 24, number 4, pp. 689-713.
- Klein, H. and Myers, M.D. (1999), 'A Set of Principles for Conducting and Evaluating Interpretative Field Studies in Information Systems', *MIS Quarterly*, volume 23, number 1, pp. 67-94.

- Klien, K. and Sorra, J. (1996), 'The Challenge of Innovation Implementation', *Academy of Management Review*, volume 21, number 4, pp.1055-1080.
- Kling, R. and Lamb, R. (1999), 'IT and Organisational Change in Digital Economies: A Socio-Technical Approach', in the *U.S. Department of Commerce: Conference on Understanding the Digital Economy: Data, Tools and Research*, Washington, D.C.
- Kock, N.F. Jr. and McQueen, R. J. (1996), 'Is Reengineering Possible in the Public Sector? A Brazilian Case Study', *Business Change and Reengineering*, volume 3, pp. 3-12.
- Kolakowski, L. (1972), 'An Overall View of Positivism', in Hammersley, M. (Ed), *Social Research: Philosophy, Politics and Practice*, Sage Publications Ltd., London
- Kotter, J. P. and Schlesinger, L. A. (1979), 'Choosing Strategies for Change', *Harvard Business Review*, volume 57, number 2, pp. 106 – 114.
- KPMG, (2000), *E-Commerce in Transport, Leisure and Tourism Industries: Research Report*.
- Kwon and Zmud (1987), 'Unifying the Fragmented Models of Information Systems Implementation', in Boland and Hirschheim, *Critical Issues in Information Systems Research*, John Wiley & Sons, pp. 227-251.
- La Micela, A., Roberti, P. and Jacucci, G. (2002), 'From Individual Tourism Organisations to a Single Virtual Tourism Organisation for Destination Management', *Proceedings of the ENTER 2002 Information Technology and Tourism Conference*.
- Laudon, K. and Laudon, J. (2000), *Management Information Systems: New Approaches to Organization and Technology*, 6th edition, Prentice Hall.
- Laudon, K. and Laudon, J. (2002), *Management Information Systems: Managing the Digital Firm*, 7th edition, Prentice Hall.
- Law, R. and Leung, R. (2000), 'A study of airline's online reservation services on the Internet', *Journal of Travel Research*, volume 39, number 2, pg. 202-212.
- Laws, E. and Buhalis, D. (2001), 'Tourism Distribution Channels: Agendas for Future Research', in *Tourism Distribution Channels: Practices, Issues and Transformations*, Buhalis, D. and Laws, E., pp. 371-376.
- Leavitt, H.J. and Bahrami, H. (1988), *Managerial Psychology: An Introduction to Individual, Paris, and Groups in Organisations*, University of Chicago Press, Chicago Illinois.
- Lee, A.S. (1989), 'A Scientific Methodology for MIS Case Studies', *MIS Quarterly*, volume 21, number 2, pp. 241-242.

- Lee, A.S. (1991), 'Integrating Positivist and Interpretative Approaches to Organisational Research', *Organisation Science*, volume 2, number 4, pp. 342-365.
- Lee, A.S. (1999). 'Researching MIS' in *Rethinking Management Information Systems: An Interdisciplinary Perspective*, Wendy L. Currie and Bob Galliers (eds.), New York: Oxford University Press, pp. 7-27.
- Lewin, K. (1951), *Field Theory of Social Science*, Harper & Row, London.
- Libbey, M.G. (1995), 'Reengineering Public Innovation', *Public Productivity and Management Review*, volume 18, number 2, pp.163-174.
- Litvin, S. and Kar, G. (2001), 'E-Surveying for Tourism Research: Legitimate Tool or Researcher's Fantasy?', *Journal of Travel Research*, volume 39, number 3, pp. 308-314.
- Liu, C. and Arnett, K. (2000), 'Exploring the Factors Associated with Web Site Success in the Context of Electronic Commerce', *Information and Management*, volume 38, pp. 23-33.
- Lucas, H. (1981), *Implementation: The Key to Successful Information Systems*, New York: Columbia University Press.
- Lyytinen, K. and Hirschheim, R. (1987), 'Information Systems Failures: A Survey and Classification of the Empirical Literature', *Oxford Surveys in Information Technology*, volume 4, pp. 257-309.
- Madon, S. (2000), 'The Internet and Socio-Economic Development: Exploring the Interaction', *Information Technology and People*, volume 13, number 2.
- Mahadevan, B. (2000), 'Business Models for Internet-Based E-Commerce: An Anatomy', *California Management Review*, volume 42, number 4, pp. 55-6
- Mansell, R. (1998), 'Net Gains or Net Dreams', *Development Research Insights*, number 21, Institute of Development Studies, University of Sussex, Brighton.
- Mansell, R. and Wehn, U. (1998), *Knowledge Societies*, Oxford University Press.
- Marcussen, C. and Morthorst, P. (1996), 'Public Tourist Information Offices as Booking Centres for Accommodation', in *Proceedings of the ENTER 1996 Information Technology and Tourism Conference*.
- Marcussen, C. and Skjoldager, D. (1998), 'Extranets of National Tourist Organisations: The Internet and Planned Extranet Web Site of the Danish Tourist Board compared with existing or planned Extranets of Australia, Austria and Norway', *Proceedings of the ENTER 1998 Information Technology and Tourism Conference*.

Margetts, H. and Willcocks, L. (1992), 'Information Systems and Risk: Public Sector Studies', *City University Business School Working Paper*, number 130.

Markus, M. L. (1989), 'Case Selection in a Dis-confirmatory Case Study' in *The Information Systems Research Challenge: Qualitative Research Methods*, volume 1, Harvard Business School Press, Boston, Massachusetts.

Markus, M.L. and Benjamin, R.I. (1997), 'The Magic Bullet Theory of IT-enabled Transformation', *Sloan Management Review*, volume 38, number 2, pp. 55-68.

Markus, M.L. and Lee, A.S. (1999), 'Using Qualitative Interpretative and Case Study Methods to Study Information Technology', *MIS Quarterly*, volume 23, number 1, pp. 35-39.

Masuda, Y. (1983), *The Information Society: as Post-industrial Society*, World Future Society.

Mather, S. and Todd, G. (1994), *Tourism in the Caribbean*, The Economist Intelligence Unit, Special Report No. 455.

McAdam, R. and Mitchell N. (1998), 'Development of a Business Process Reengineering Model Applicable to the Public Sector', *Total Quality Management*, volume 9, number 4, pp.160-163.

McClintock, C. and Maynard-Moody, S. (1979), 'Applying the Logic of Sample Surveys to Qualitative Case Studies: The Case Cluster Method', *Administrative Science Quarterly*, volume 24, pp. 612 – 629.

McCracken, G. (1994), 'The Long Interview', in *Handbook of Qualitative Research*, Denzin, N.K. and Lincoln, Y.S. (eds.), London: Sage Publications, pp. 9-27.

McFarlan, F.W. (1984), *The Information Systems Research Challenge*, Harvard Business School Press, Boston, Massachusetts, pp. 47-85.

McKeen, J., Guimaraes, T., and Wetherbe, J. (1994), 'The Relationship Between User Participation and User Satisfaction: An Investigation of Four Contingency Factors', *MIS Quarterly*, volume 18, number 4, pp. 427-451.

McLemore, C. and Mitchell, N. (2001), 'An Internet Conversion Study of www.arkansas.com – A State Tourism Web Site', *Journal of Vacation Marketing*, volume 7, number 3.

Mechling, J. (1994), 'Reengineering Government: Is There a "There" There?', *Public Productivity and Management Review*, volume 18, number 2, pp.189-197.

Middleton, V. (2002), *Marketing in Travel and Tourism*, 5th Edition, Prentice Hall.

- Miles, M. (1979), 'Qualitative Data as an Attractive Nuisance: The Problem of Analysis', *Administrative Science Quarterly*, volume 24, pp. 590-600.
- Miles, M. B. and Huberman, A. M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, Thousand Oaks, CA: Sage.
- Miller, D. (1982), 'Evolution and Revolution: A Quantum View of Structural Change in Organizations', *The Journal of Management Studies*, volume 19, number 2, pp. 131-151.
- Mintzberg, H. (1973), *The Nature Of Managerial Work*, New York: Harper & Row.
- Mistilis, N. and Daniele, R. (2001), 'Does the Public Sector Have a Role in Developing Destination Marketing Systems?' *Proceedings of the ENTER 2001 Information Technology and Tourism Conference*.
- Mitchell, N. and McAdam, R. (1999), 'Exploring Components of Business Improvement in the Business Sector', *Total Quality Management*, volume 10, number 4, pp. 653-658.
- Mohr, L.B. (1982), *Explaining Organisational Behaviour*, Jossey-Bass, San Francisco.
- Montealegre, L. (1999), 'A Temporal Model of Institutional Interventions for Information Technology Adoption in Less-Developed Countries', *Journal of Management Information Systems*, volume 16, number 1, pp. 207-232.
- Moore, M. (1996), 'Public Sector Reform: Downsizing, Restructuring, Improving Performance', Discussion Paper No.7, *Forum on Health Sector Reform*, World Health Organization (WHO).
- Morgan, N., Prichard, A. and Abbott, S. (2001), 'Consumers, Travel and Technology: A Bright Future for the Web or Television Shopping?', *Journal of Vacation Marketing*, volume 7, number 2, pp. 110-124.
- Morton, M.S. (1991), *The Corporation of the 1990's: Information Technology and Organizational Transformation*, Oxford University Press.
- Morton, M.S. (1994), 'The 1990's Research Program: Implications for Management and the Emerging Organization', *Decision Support Systems*, volume 12, pp.251-256.
- Moutinho, L (2000), *Strategic Management in Tourism*, CABI Publishing, Oxon, UK.
- Muid, C. (1994), 'Information Systems and New Public Management-A view from the Centre', *Public Administration*, volume 72, Spring, pp.113-125.
- Mukherjee, S. and Braganza, A. (1994), 'Core Process Redesign in the Public Sector', *Management Services*, volume 38, number 6, pp. 6-8.

Mumford, E. (1994). 'New Treatments or Old Remedies: Is Business Process Reengineering Really Socio-technical Design?', *Journal of Strategic Information Systems*, volume 3, number 4, pp. 313-326.

Mundy, P.A. and Compton, J.L. (1995), 'Indigenous Communication and Indigenous Knowledge', in *The Cultural Dimension of Development*, Intermediate Technology Publications Ltd, pp. 112-123.

Nidumolu, S. et al. (1996), 'Information Technology for Local Administration Support: The Governorates Project in Egypt', *MIS Quarterly*, volume 2, number 1, pp.197-224.

O'Brien, J. (2001), 'Introduction to IS: Essentials for the Internetworked E-Business Enterprise', 10th Edition McGraw-Hill Irwin

O'Conner, P., Buhalis, D. and Frew, A. (2001), 'The Transformation of Tourism Distribution Channels through Information Technology', in *Tourism Distribution Channels: Practices, Issues and Transformations*, Buhalis, D. and Laws, E. (eds), pp. 332-350.

O'Neill, P. and Sohal, A.S. (1999), 'Business Process Reengineering: A Review of Recent Literature', *Technovation*, volume 19, pp. 571-581.

OECD (1998), *A New Era in Information Technology: It's Implications for Tourism Policies*, Organisation for Economic Cooperation and Development (OECD).

OECD (1999), *The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda*, Organisation for Economic Cooperation and Development

OECD (2001), *Understanding the Digital Divide*, Directorate for Science, Technology and Industry, Organisation for Economic Cooperation and Development (OECD).

OECS (2002), *Human Development Report: 2002*, Organisation of Eastern Caribbean States Secretariat.

Oertel, B., Feil, T. and Thio, S. (2002), 'Benchmarking Information and Communication Applications for the Purpose of Marketing and Sales in the Tourism Sector', *Proceedings of the ENTER 2002 Information Technology and Tourism Conference*.

Oertel, B., Thio, L. and Feil, T. (2001). 'Benchmarking Tourism Destinations in the European Union', *Proceedings of the ENTER 2001 Information Technology and Tourism Conference*.

OFTEL (2002), *Consumers Use of the Internet: Residential Survey: 2001*, OFTEL United Kingdom.

- Olsen, M.H. and Ives, B. (1981), 'User Involvement in System Design: An Empirical Test of Alternative Approaches', *Information and Management*, Volume (4), pp. 183-195.
- Oppermann, M. and Chon, K. (1997), *Tourism in Developing Countries*, International Thomson Business Press.
- Organization of American States (1999), *Caribbean Small Hotels Survey*, Inter-Sectoral Unit for Tourism and ARA Consulting Group, a Division of KPMG LLP.
- Osborne, D. (2000), 'Lessons From Abroad', *Government Executive*, volume 32, number 1, pp. 35-37.
- Osti, L. and Pechlaner, (2001), 'Communication Issues in NTO Distribution Strategies' in *Tourism Distribution Channels: Practices, Issues and Transformations*, Buhalis, D. and Laws, E. (eds.), pp. 231-242.
- Painter, C. (1994), 'Public Sector Reform: Reinventing or Abandoning Government?' *Political Quarterly*, volume 65, number 3, pp. 242-262.
- Pan, B. and Fesenmaier, D. (2000), 'A Typology of Tourism Related Web Sites: Its Theoretical Background and Implications', *Information Technology and Tourism*, volume 3, pp. 155-166.
- Panos (1998), *The Internet and Poverty: Real Hope or Real Hype*, McGraw Hill, London.
- Parker, E.B. (1984), 'Appropriate Telecommunications for Economic Development', *Telecommunications Policy*, September, pp. 173-177.
- Patching, D. (1994), 'Business Process Reengineering', *Management Services*, volume 39, number 6, pp.10-16.
- Patton, M. Q. (1997), *Utilization Focused Evaluation: The New Century Text*, Thousand Oaks, CA: Sage.
- Pattulo, P. (1996), *Last Resorts: The Cost of Tourism in the Caribbean*, Cassell, London.
- Peha, J. (1999), 'Lessons from Haiti's Internet Development', *Communications of the ACM*, volume 42, number 6, pp. 67-72.
- Peltu, M. Clery, C. and Sell, R. (1996), 'Business Process Reengineering: The Human Issues', *Forum Proceedings*, ESRC, Business Processes Research Centre.
- Peppard, J. and Rowland, P. (1995), *The Essence of Business Process Reengineering*, Prentice-Hall, Europe.

- Petrazzini and Kibati (1999), 'The Internet in Developing Countries', *Communications of the ACM*, volume 42, number 6, pp. 31-36.
- Pollock, A. (1997), *Marketing Destinations on the Internet: Why and How?*, The Strategy Group.
- Pollock, A. (1998), 'Creating Intelligent Destinations for Wired Consumers', in *Proceedings of the International Conference on Information and Communication Technologies in Tourism (ENTER)*.
- Pollock, A. (2002), *Why Web Services and Grid Computing will Turn the Travel Industry of its Head*, Desticorp Ltd.
- Poon, A. (1993), *Tourism, Technology and Competitive Strategies*, CAB International.
- Porter, M.E. (2001), 'Strategy and the Internet', *Harvard Business Review*, March.
- Posner, B. G. and Rothstein, L.R. (1994), 'Reinventing the Business of Government' *Harvard Business Review*, May/June, pp.132-143.
- Powell, C. (2000), 'Is the Digital Divide a Problem or Opportunity', *Business Week*, December 18.
- Powell, T. (1998), *Web Site Engineering: Beyond Web Page Design*. Prentice Hall, London.
- Premkumar, G. and King, W. (1994), 'Organisational Characteristics and Information Systems Planning: An Empirical Study', *Information Systems Research*, volume 5, number 2, pp. 75-109.
- Press, L (1998), 'An Internet Diffusion Framework', *Communications of the ACM*, volume 41, number 10, pp. 21-26.
- Press, L. (1994), 'Commercialisation of the Internet', *Communications of the ACM*, volume 37, number 11, pp. 17-21.
- Press, L. (1996), 'The Role of Computer Networks in Development', *Communications of the ACM*, volume 39, number 2, pp. 23-30.
- Press, L. (1997), 'Tracking the Global Diffusion of the Internet', *Communications of the ACM*, volume 40, number 11, pp.11-17.
- Press, L.(1998), 'An Internet Diffusion Framework', *Communications of the ACM*, volume 41, number 10, pp. 21-26.

Proll, B. and Retschitzegger, W. (2000), 'Discovering the Next Generation Tourism Information Systems: A Tour on TIScover', *Journal of Travel Research*, volume 39, number 2, pp. 182-191.

Quelch, J. and Klein, L. (1996), 'The Internet and International Marketing', *Sloan Management Review*, volume 31, pp. 335-345.

Quinn, E.J. and Emmons, S.L. (1998), 'Riding Roughshod over Reengineering', *Workforce*, volume 77, number 4, pp. 101-104.

Quinn, J.B. (1989), 'Strategic Change: Logical Incrementalism', *Sloan Management Review*, volume 30, number 4, pp. 45-60.

Rachman, Z. and Buchanan, J. (1999), 'Effective Tourism Web Sites: Literature Review and Features Survey', Working Paper, University of Waikato, New Zealand.

Rappa, M. (2000), *Business Models on the Web: Managing the Digital Enterprise*.

Renz D.O. (1988), 'Transformation of a Public Sector Bureaucracy' in Ralph et al. *Corporate Transformation: Revitalizing Organisations for a Competitive World*, Jossey-Bass Inc. Publishers.

Rhodes, R. (1994), 'Reinventing Excellence: or how best sellers thwart the search for Lessons to Transform the Public Sector', *Public Administration*, volume 72, Summer, pp. 281-289.

Richer, P. and O'Neil-Dunne, T. (1998), 'Distribution Technology in the Travel Industry: Strategies for Marketing Success', *Financial Times Business Ltd*.

Riley, R.W. and Love, L.L. (2000), 'The State of Qualitative Tourism Research', *Annals of Tourism Research*, volume 27, number 1, pp. 164-187.

Rocheleau, B. (1997), *Governmental Information System Problems and Failures: A Preliminary Review*, Northern Illinois University.

Rockart, J. and Scott-Morton, M. (1984), 'Implications of Changes in Information Technology for Corporate Strategy', *Interfaces*, volume 14, number 1, pp. 84-95.

Rogers, E. and Shoemaker, F. (1971), *Communication of Innovation: A Cross Cultural Approach*, The Free Press, New York.

Rogers, E. (1983), *Diffusion of Innovation*, Free Press, New York.

Rodgerson, A. and Itoh, K. (1998), 'Knowledge and Development: Two Sides of Tomorrow's Coin', *Development Research Insights #25*, Institute of Development Studies, University of Sussex, Brighton.

- Ryan, G. and Bernard, H. (2000), *Data Management and Analysis Methods*, Sage Publications.
- Sanday, P. (1979), 'The Ethnographic Paradigms', *Administrative Science Quarterly*, volume 24, number 4, pp. 527-538.
- Scandura, T.A. and Williams, E.A. (2000), 'Research Methodology in Management: Current Practices, Trends, and Implications for Future Research', *Academy of Management Journal*, volume 43, number 6, pp. 1248-1264.
- Schertler, W. (1994), 'Tourism 2000: An Information Business' in *Proceedings of the International Conference on Information and Communication Technologies in Tourism (ENTER)*, edited by W. Schertler et al. Vienna/New York: Springer, pp.20-26
- Schnitt, D.L. (1993), 'Reengineering the Organization using IT', *Journal of Systems Management*, volume 44, number 1, pp.14-22.
- Scott Morton, M. (1991), *The Corporation of the 1990's: Information Technology and Organizational Transformation*, Oxford University Press Inc.
- Scott, N. and Laws, E., (2001), 'Use of Tourism Destination Channels for Destination Marketing: A Model and Case Study in Tourism Distribution Strategies', in *Tourism Distribution Channels: Practices, Issues and Transformations*, Buhalis, D. and Laws, E. pp. 298-311.
- Seidel, J. (1991), 'Method and Madness in the Application of Computer Technology to Qualitative Data Analysis', in N. Fielding and R.M. Lee (Eds.) *Using Computers in Qualitative Research*. London: Sage.
- Sharma, Carson and Delacy (2000), 'National On-line Tourism Policy Initiatives for Australia', *Journal of Travel Research*, volume 39, number 2, pp. 157-162
- Sheldon, P. (1997), *Tourism Information Technology*. CAB International.
- Sheldon, P. (2000), 'Tourism Information Technology', *Journal of Travel Research*, volume 39, number 2, pp. 133-146.
- Singh, D. (1999) *Electronic Commerce: Issues for the South*, Working Paper, South Centre.
- Singh, J.V., House, R. J. and Tucker, D. J., (1986), 'Organizational Change and Organizational Mortality', *Administrative Science Quarterly*, volume 31, number 4, pp. 587-611.
- Singleton, R.A. and Straits, B.C. (1999), *Approaches to Social Research*, 3rd Edition, Oxford University Press.

Skeete, D. (2000). *A New Vision for the Tourist Board*, The Voice Newspaper, September 9th, 2000, St. Lucia.

Smith, C.N. (1990), 'The Case Study: A Useful Research Method for Information Management', *Journal of Information Technology*, volume 5, pp. 123-133.

Spector, B A. (1989), 'From Bogged Down to Fired Up: Inspiring Organizational Change' *Sloan Management Review*, Summer, pp. 29 – 34.

St. Lucia Ministry of Finance and Economic Affairs (2001), *Economic and Social Review: 2000*, Government of Saint Lucia.

St. Lucia Tourist Board (1999), *The Economic Importance of Marketing St. Lucia as a Tourist Destination*.

Stake, R. (1994), 'Case Studies', in *Handbook of Qualitative Research*, Denzin, N.K. and Lincoln, Y.S. (eds.), London: Sage Publications, pp. 236-247

Stewart, J. and Walsh, K. (1992), 'Change in the Management of Public Services', *Public Administration*, volume 70, Winter, pp. 499-518.

Strassman, P.A. (1994), 'The Rap on Reengineering', *Computerworld*, September 6.

Straub, D.W. et al. (1994), 'Normative Standards for Information Systems Research', *Database*, volume 2, pp. 21-34..

Swanson, E.B. (1994), 'Information Systems Innovation Among Organisations', *Management Science*, volume 40, number 9, pp. 1069-1092.

Tapscott, D. (1995), *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*, London : McGraw-Hill.

Tapscott, Lowy and Ticoll (1998), *Blueprint to the Digital Economy: Converting Digital Promise into Reality*, London: McGraw-Hill.

Tapscott, Lowy and Ticoll (2000), *Digital Capital: Harnessing the Power of e-Business Communities*, London: Nicholas Brealey.

Tellis, W. (1997), 'Application of Case Study Methodology', *The Qualitative Report*, volume 3, number 3.

Terry, S (2000), 'Internet Adoption: Barriers and Inhibitors', *Commerce Net Research Report: 2001*

Tierney, P. (2000), 'Internet-based Evaluation of Tourism Web Site Effectiveness: Methodological Issues and Survey Results', *Journal of Travel Research*, volume 39, number 2, pp. 212-219.

Timmers, P (1998), 'Business Models for Electronic Markets', [www.electronicmarkets.org/netacademy/publications.nsf/all_pk/949/\\$file/v8n2_timmers.pdf](http://www.electronicmarkets.org/netacademy/publications.nsf/all_pk/949/$file/v8n2_timmers.pdf)

Timmers, P. (2000), *Electronic Commerce: Strategies and Models for Business-to-Business Trading*, Wiley & Sons, London.

Tornatzky, L. and Fleisher, M. (1990), '*The Process of Technological Innovation: Reviewing the Literature*', Washington, DC: National Science Foundation.

Tourism Intelligence International (2000), *How the British Will Travel 2005*.

Tribe, J. (2001), 'Research Paradigms and the Tourism Curriculum', *Journal of Travel Research*, volume 39, pp. 442-448.

Tunnard, C. and Haines, P. (1999), 'Destination Marketing Systems – A New Role for Tourist Board Marketing in the Information Age', *Journal of Vacation Marketing*, volume 1, number 4.

Turban E., King D., Lee J., Warkentin M. and Chung M. (2002), *Electronic Commerce: A Managerial Perspective*, Prentice Hall, Pearson Education Inc. New Jersey.

UNESCO (1996), *ICTs in Development*, United Nations

United Nations Conference on Trade and Development (UNCTAD) (2000a), *Electronic Commerce and Development Report*, United Nations.

UNCTAD (2000b), *Electronic Commerce and Tourism: New Perspectives and Challenges for Developing Countries*, United Nations Conference on Trade and Development.

UNCTAD (2002), *E-Commerce and Development Report: 2002*. United Nations Conference on Trade and Development .

Van de Ven, A. and Pool, M. (1990), 'Methods for Studying Innovation Development in the Minnesota Innovation Research Program', *Organisation Science*, volume 3, pp. 313-385.

Van de Ven, A. and Rogers, E. (1988), 'Innovation and Organisations: Critical Perspectives', *Communications Research*, volume 15, pp. 632-651.

Van Wart, M.(1996), 'Reinventing in the Public Sector: The Critical Role of Value Restructuring', *Public Administration Quarterly*, Winter, pp. 456-478.

Vaughan, D, Jolley, A. and Mehrer, P. (1999), 'Local Authorities in England and Wales and the Development of Tourism Internet Sites', *Information Technology and Tourism*, volume 2, pp. 115-129.

Venkatraman, N. (1991), 'IT-Induced Business Reconfiguration' in Scott Morton (1991). *The Corporation of the 1990's: Information Technology and Organizational Transformation*, Oxford University Press Inc. pp. 122-158.

Venkatraman, N. (1994), 'IT-Enabled Business Transformation: From Automation to Business Scope Redefinition', *Sloan Management Review*, Winter: 73-87.

Ventura, A. (1997), *An Information Technology Agenda to Benefit Developing Countries*, European Union (EU) Conference on Research Partnerships for Sustainable Development. Leiden, Holland.

Wallis, R. and Holtham, C. (2000), 'From the Physical to the Virtual – and back again: Relationships Between Tangible and Intangible Products, Services and Experiences and their Relevance in the Digital Environment', Working Paper, City University.

Walsham, G. (1995), 'Interpretative Case Studies in IS Research: Nature and Method', *European Journal of Information Systems* (4): 74-81.

Walsham, G. (1995), 'The Emergency of Interpretive in IS Research, Information Systems Research', volume 6, number 4, pp. 376-394.

Wan, C. (2002), 'The Web Sites of International Tourist Hotels and Tour Wholesalers in Taiwan', *Tourism Management*, volume 23, pp.155-160

Waterman, R. H. (1990), *Adhocracy: The Power to Change*, Knoxville, TN, Whittle Direct.

Watson, G.H. (1997), *Business Systems Engineering – Managing Breakthroughs Changes for Productivity and Profit*, John Wiley and Sons, Inc.

Watson, R. (1997), 'Key Issues in Information Systems Management: An International Perspective', *Journal of Management Information Systems*, volume 13, number 4, pp. 91-115

Weaver, A. and Atkinson, P. (1994), *Microcomputing and Qualitative Data Analysis*, Avebury: Aldershot.

Weber, K. and Roehl, W. (1999), 'Profiling People Searching for and Purchasing Travel Products on the World Wide Web', *Journal of Travel Research*, volume 37, pp. 291-298.

Wehn, U. (1998), 'Internet Access for All: the Obstacles and the Signposts', *Development Research Insights #25*, Institute of Development Studies, University of Sussex, Brighton.

Weicher, et al. (1995), 'Business Process Reengineering Analysis and Recommendations', Working Paper, Baruch College, NY.

Weikart, L. and Carlson P. (1998), 'Implementing Computer Systems in the Face of Fiscal Scarcity', *Public Productivity and Management Review*, volume 21, number 3, pp. 284-292.

Werther and Klein (1999), *Information Technology and Tourism: A Challenging Relationship*, SpringerWein: New York

Willcocks, L. and Harrow, J. (1992) (Eds.), *Rediscovering Public Services Management*, McGraw-Hill Book Company.

Willcocks, L.P. and Mark, A.L. (1989), 'IT Systems Implementation: Research Findings from the Public Sector', *Journal of Information Technology*, volume 4, number 2.

Willcocks, L.P. Carrie W. and Jackson S. (1997), 'In Pursuit of the Reengineering Agenda in Public Administration', *Public Administration*, volume, winter, pp. 617-649.

Willcocks, L. (1994), 'Managing Information Systems in UK Public Administration: Issues and Prospects', *Public Administration*, volume 72, spring, pp.13-32.

Wober, K., Scharl, A., Natter, M. and Taudes, A. (2002), 'Success Factors of European Hotel Web Sites', *Proceedings of the Information Technology and Tourism Conference Enter 2002*.

Wolfe, R. (1994), 'Organisational Innovation: Review, Critique and Suggested Research Directions', *Journal of Management Studies*, volume 31, number 3, pp. 405-431.

World Bank (1999), *Knowledge for Development*, World Bank Publications.

World Tourism Organization (1985), *Preliminary Study Concerning Experiences of Technology Transfer and It's Effects*, Madrid.

World Tourism Organisation (1999a), *Marketing Tourism Destinations Online: Strategies for the Information Age*, WTO Business Council, Madrid.

World Tourism Organization (1999b), *Budgets of National Tourism Administrations*, Madrid, Spain.

World Tourism Organization (1999c), *The Future of National Tourism Offices*, Prague, Czech.Rep.

World Tourism Organization (2000), *Tourism in the Age of Alliances, Mergers and Acquisitions*, WTO Business Council, Madrid, Spain.

World Tourism Organization (2001a), *Tourism After 11 September 2001: Analysis, Remedial Actions and Prospects*, WTO Business Council, Madrid.

World Tourism Organisation (2001b), *E-Business for Tourism: Practical Guidelines for Destinations and Businesses*, WTO Business Council, Madrid.

Yin, R. (1981), 'The Case Study Crisis: Some Answers', *Administrative Science Quarterly*, volume 26, pp. 58 – 65.

Yin, R. (1994), *Case Study Research: Design and Methods*, Sage Publications Inc. 2nd Ed.

Yoemans, M.S. (1996), 'Achieving Breakthrough Improvement Through Business Process Reengineering', *The Electronic College of Process Innovation*, Winter.

Young, K. (1996), 'Reinventing Local Government? Some Evidence Assessed', *Public Administration*, volume 74, autumn, pp. 347-367.

Yuan, Y. and Fesenmaier, D. (2000), 'Preparing the New Tourism Economy: The Use of the Internet and Intranet in American Convention and Visitor Bureaus', *Information Technology and Tourism*, volume 3, pp. 71-85.

Zand, D. and Sorensen, R. (1975), 'Theory of Change and the effective Use of Management Science', *Administrative Quarterly Review*, volume 31, number 4, pp. 587-611.

Zand, D. E. and Sorensen, R. E. (1975), 'Theory of Change and the Effective Use of Management Science', *Administrative Science Quarterly*, volume 20, number 4, pp. 532-545.

Zanetti, L. (1997), 'Advancing Praxis: Connecting Critical Theory with Practice in Public Administration', *American Review of Public Administration*, volume 27, number 2, pp.145-167.

Zeira, Y. and Avedisian, J. (1989), 'Organizational Planning Change: Assessing the Chances for Success', *Organizational Dynamics*, volume 17, number 4, pp. 31-45.

Zmud, R.W. (1984), 'Diffusion of Modern Software Practices: Influence of Centralisation and Formalisation', *Management Science*, volume 28, number 12, pp.1421-1431.

Zwass, V. (1998), *Structure and Macro-level Impacts of Electronic Commerce: From Technological Infrastructure to Electronic Marketplaces in Foundations of Information Systems*, McGraw-Hill Higher Education.